



## SUPPLY CHAIN DIGITALIZATION

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### Lesson No 1 – Supply Chain Digitalization – An Overview

Hi folks, welcome to lesson one of supply chain digitalization, an overview. So what I want to cover first today is the difference between digitization digitalization and digital transformation. So let's look into the precise definition of each of them. What is the difference between each of them? So digitization, what does that mean? Moving from analog to digital form. For example, we used to get bill of trading into a hard copy through the post or through the parcel, etc, after a few days when your product will always go on the ship. But now we have an email of letting and thanks to covid, it's not becoming more common. Similarly, we used to get a packing list and dispatch notes through the hard copy. Now everything is digital on that part as well. Also, I remember signing off a proof of delivery when I was working in a warehouse. Right now everything is on the pad. People come in and you sign as a proof of delivery with your name. That is a very classic example of how something was analog. Now become digital. Now digitalization using digital technologies for creating business value. What could be the example? So what usually happened is i used to get complaints from a customer saying your order book is not matching with my order book and you have probably more orders. And then what we used to do, we used to download the report from the ERP system. We used to do some analysis and we look up and we used to send them and then say yeah, it's matching and not matching. But we can easily sort that because what we can do is whatever the order booked we have got or the customers has put in place first of all they can order on the portal. It doesn't matter. You are a B to B customer, B to C customer. You can easily create these days in order management portal. In that portal you can link that portal. You can use whatever cloud technology with your current ERP system because there is quite a few let's call it APIs available regardless of your ERP. And then once the order is entered you can have a visible then you can go on and do your planning. But you can also do is whatever the order bank you have, you can take it out and make it available on the portal as well. So once the order is entered you can enter in your ERP system customer will get order confirmation through the same web portal. Moreover, they can download their open order book whenever they want. This is creating that means we are creating a business value for the customers because they don't have to call you. They are pretty much up to

speed of what are the orders, how much are in progress and what is the current status if you can show the status on your report Let's take another example. When I used to my customer service team one of the most frequently received requests of the calls was can you please tell me ETA and ETD of my shipment or when your product is coming, when it's reaching? So customer service people used to go in, go to the website of a shipping company, find out the latest ETA and ETD which is continuously changing, and then basically send them an email or basically give them a call. Pretty much I think it was like 50 to 60 hours work between three or four customer service people. Now what I've done in my previous job is I have created basically a small RPA project where the bot goes into the few shipping line websites we work for, Maersk MSC or whoever and put the container number or bill of trading, identify the latest ETA and ETD and bring back that information to the web portal we have created. Or basically can also enter into the ERP because bot can do that. You can program that and that information is available to a customer on a web portal. Again, you're saving so much time that people are manually going into the website one by one identifying ETA, ETD and then going back to a customer because it is more repetitive exercise. You can automate all of that. I have done it in my previous job. That means we just saved literally \$75,000 just by writing a very brief RPA program just to identify the opportunity and how we can save time. That is creating business value or we can save money or provide better customer service. So what does digital transformation means? It means enterprise wide technology enabled business transformation. So let's explore this with an example. So let's assume you're a product business. Most of the manufacturing companies are product business. You sell product, you make money, you make more products, you launch new products or basically different versions of it. So whatever your product is, if you are somehow collecting data through that product using RFID, using IoT, whatever tagging system you can use, that data tell you a lot about customer behavior, their likeness, their dislikeness and the order pattern, how they behave when they receive a product. You can collect all of that. And from that data you can do some analysis and provide them a better product or basically products plus services and data itself become a good repository of let's call it value creation. And from that data you can offer more services to them as well, So that means data is creating value. And by creating value you are creating a better experience of your product. And that is getting very common. So for example in the tire industry or the mobility solution industry. So all the leading tire manufacturing players like Michelin or Bridgestone, most of their tires are coming with the RFID tag fitting into it, So that means that tag creating data, which is talking to the fleet solution they have created. And that from that data they are advising to the fleet managers, how to prevent the maintenance or for example, how to reduce the consumption of the

fuel. And it's providing them a lot more information. So therefore, the customers who used to buy tires only now gaining a benefit from the information available from the tire manufacturers just by the virtue of the data analysis those companies are doing, therefore providing more value. That is called digital transformation. And what I believe most of the businesses or almost all of the businesses should start looking into this kind of digital transformation. Now let's start looking to the definitions of digitization, digitalization or digital transformation with one more example. Digitization means converting information from a physical or analog format into a digital one. Digitalization means leveraging digitized data to improve business processes. Digital transformation means implementing a series of technological and human changes to restructure the existing business model, thereby leading a new opportunities and values for the business. Let's take a famous example of Netflix. They used to sell cassettes Then what they did was they changed the business model and they digitalized their business model and gone from analog, which is cassettes, into a digital CDs. Then they move to digitalization. That means what they did was they allowed customers on their website to basically rent it, whatever they choice, for whatever time period they want. Then, as we all know, famously, they move data into digital transformation And all of their movies and videos are available on streaming on a subscription based model. So they can collect a lot of data, your user behavior data. And then basically whenever you log in, they actually shows you your interest, This is called a true digital or transformation. So let's look into the process changes in digitization, we talk about manual processes need to be converted. In digitalization, we talk about semi automatic processes. And in digital transformation, we talk about automated processes. So when we talk about the goal of each of them in digitization, we are encoding information. In digitalization, information processing is happening. In digital transformation, we are leveraging knowledge. So what are the objectives for each of them to finalize? In digitization, we convert from analog to digital format, digitalization automate existing business and operational processes. Digital transformation change organizations culture to deliver new services, products, and new levels of customer engagement. Lastly, let's look into the activities and the tools used in digitization convert paper, document, analog media, microfilms to digital format and digitalization creation of the end to end digital work processes. So in digital transformation, integration of multiple processes and work streams to digitally enable the organization. So let's look into the tools. What tools can be used? Simply speaking, computers and conversions, encoding equipment and digitalization. We're talking about it applications, mostly digital transformation, new and disruptive technologies, robotic process automation and artificial intelligence, etc So as a researcher, I always believe you need to start with the basic definition

of whatever concept you're trying to learn. So I tried to look into it and I found a very good one. So how research has defined what is supply chain digitalization smart value driven efficient processes to generate new forms of revenue and business value for organization and to leverage new approaches with novel technological and analytical method. So the critical work for me here to take is a new forms of revenue. And I give you an example earlier of the tire industry where how they're using data to drive more value. But the same data can become a great source of income as well. Because if you start creating value of this data which is helping customer to reduce their cost, they will happy to pay for it and that's happening more and more. So the analytical companies are creating data so they can provide the value from the data and people are happy to pay for it. And I'm sure you have subscribed to some apps to get insights to your business, because that insight helping you to do better. The other part which I like in this definition is the analytical method and this is where the big data will become very important, right, because it will help us finding better method of analysis which creates value for the supply chain from upstream to downstream. So now look into the difference between what the supply chain digitalization means today and tomorrow. And today we talk about data gathering across systems. Tomorrow we'll talk about real time data collection. Today we're talking about manual collaboration. Tomorrow we'll talk about digital collaboration and scenarios. Today we talk about manual what if scenarios. In tomorrow's world we will talk about automatic simulations probably learned by AI giving you more predictive and prescriptive analysis of how you can run your supply chain better in today cadence based planning and decision making. So in tomorrow we will talk about continuous event driven planning and decision making and that is the state we all want to achieve. Now let's look into the seven dimensions of digital supply chain management. Number one is a digital performance measurement. That means you need to find a way how to measure the performance of your digital supply chain. Digital and It technology, digital human resources, digital suppliers, digital manufacturing systems, digital inventory and logistics and digital customers. So in this lesson, what I've tried to do is to give you a basic concept of the difference between digitization, which is converting anything, which is analog into a digital form. Digitalization means creating business value and digital transformation means using technology to create more value for your customers, your suppliers, ie. Changing business model. Hopefully you like this lesson. Now we move to the lesson two where I will talk about success factors and barriers and challenges into supply chain digitalization. See you in the next lesson.

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