Lesson number 13. Information integration of processes in supply chain management

Purpose of the lesson:
Explore Information Integration of Processes in Supply Chain Management
Key words: Information integration, supply chains

Main questions:

1. Supply chain integration
2. Obtain access to relevant data by breaking down data silos
3. Harmonize the data format
4. Improve the quality of the data
5. Improve and automate the underlying business processes
6. Improve collaboration across the supply chain
7. The supply chain integration process

A new study by Tools Group and Spinnaker revealed that only 7% of companies are realizing the benefits of digitalization of the supply chain. The study surveyed 2000 North America based supply chain professionals from top CPG, distribution/wholesale food and beverage, manufacturing, and retail companies, and it revealed that 58% of the respondents are evaluating what steps they need to take towards digital transformation. In this process, they will be evaluating and selecting the technologies that help their supply chains to succeed, be more optimized, and function better to support the business goals.

A supply chain can have a significant impact on the organization's performance. The respondents of the survey thought that supply chain digitalization would have the most significant effect on operational efficiencies, customer expectations, customer service levels, and order fill rates, as well as helps to drive business performance towards improved revenue and profit.

Nevertheless, fear of change management and risk of the implementation have been holding back organizations from digitalizing their supply chains.

Still, supply chain technology can transform operations and completely change how the department contributes to the business results. Therefore, it's increasingly essential that supply chain organizations define their ways of how data can be used more effectively.

SUPPLY CHAIN INTEGRATION AS THE CORNERSTONE OF SUPPLY CHAIN DIGITALIZATION

Supply chains are increasingly complex, both from the inside and the outside. There are multiple stakeholders and various systems and applications involved, thus collaboration and cooperation are essential for efficiency. As supply chains need to become more digital and data-driven, systems and applications should be integrated for process automation.

Nevertheless, this can be an overwhelming task when systems and applications can be legacy ones (more on the topic in our blog on legacy systems)

or cloud-based ones (so you need to be able to create hybrid integrations), there are a variety of data standards and formats, and the underlying business logic can be quite complex.

The potential value of the data is enormous for logistics and supply chain operations (as well as sometimes also for other business units) as more data is coming in than ever before. The problem is that the data arrives from an array of sources (and these sources are often buried in siloed systems), and the data is presented in a variety of formats. To make the best possible use of the available information, data integration solutions are invaluable for businesses.

In this blog, we will explain what supply chain integration is, what does the integration process looks like, why you need data integrations to improve your supply chain performance, as well as how managed data integration services can help you.

SUPPLY CHAIN INTEGRATION

Earlier, we defined supply chain integration as the following:

"Supply chain integration means that all internal stakeholders and trading partners of the supply chains are connected. This way, they can share information in real-time to work towards a common goal and commit to continuous supply chain management improvement to boost supply chain efficiency.

Integrating the entire B2B supply chain is a challenging task: it requires an unbeatable supply chain integration strategy and the right integration tool and experts. Our iPaaS has been designed to support your integration strategy and tackle even the most complex integration challenges. All solutions are developed and managed by our integration architects so you can focus on your business."

Supply chain integration can be extremely beneficial from the point of supply chain optimization. While various tools can help you to improve supply chain performance, the role of supply chain integration is often overlooked. Connecting systems and applications, first internally, then also with your external stakeholders, can help you to have all the data you need in a single place, harmonize the data, as well as improve the data quality by data validation and enrichment if that is necessary.

WHY DO YOU NEED SUPPLY CHAIN INTEGRATION?

We have identified five main reasons why you should invest in supply chain integrations. While we briefly touched these topics in the previous paragraphs, let us explain in more detail.

1. OBTAIN ACCESS TO RELEVANT DATA BY BREAKING DOWN DATA SILOS

Regardless of where the data is located – for example, buried in different systems and applications across departments or even across companies – for the best possible optimization, you need to ensure that you can access all the data that could help you. Connecting systems and breaking down data silos is one of the most significant benefits of data integration across the entire supply chain.

2. HARMONIZE THE DATA FORMAT

Despite several initiatives of data standardization, typically, in all data integration cases, you will need to work around many data formats. Even if you

connect different EDI systems, you will most likely deal with a variety of standards and formats. Some systems may use in-house data formats, others could use EDI standards (EDIFACT, ANSI X12), while cloud-based solutions that utilize APIs use JSON or XML. The list is endless. It's also typical that one endpoint would send .csv files or PDFs. When you want to connect different applications within the supply chain, you need to prepare that you will deal with a lot of data translation, as well as data mapping. Even if two applications use the same data format, the chances are high that there will be differences in the data fields.

3. IMPROVE THE QUALITY OF THE DATA

Data integration solutions can utilize logic to ensure that you do not need to manually check all the incoming data to ensure that the messages contain all the information that you need. You just need to define your business rules so that the logic can validate all messages against them. If the message is missing any information that is critical for you, it can be forwarded back to the sender for enrichment.

4. IMPROVE AND AUTOMATE THE UNDERLYING BUSINESS PROCESSES

While we often talk about integrating systems and applications to transfer data between them, business process integration is just as equally important. Understanding the business processes of your supply chain has strategic importance: connecting the right processes for automation will most likely help you to make the most out of your integration strategy as well as make your supply chain more optimized and gives you a competitive advantage in the long run.

5. IMPROVE COLLABORATION ACROSS THE SUPPLY CHAIN

Connecting your applications and automating your business processes, both internally and externally within your supply chain, will ensure that you can collaborate better with all stakeholders for further supply chain optimization.

THE SUPPLY CHAIN INTEGRATION PROCESS

Supply chain integration is always an incremental process; thus, you should define your own priorities considering your business strategy as well as the potential return on investment. As the integration process can be time consuming and challenging (as well as quite expensive), you should make sure that before you start the process you have a good plan for the implementation, as well as a good vendor that supports you on your journey.

Often, even within your own organization there's friction in the supply chain, so starting the integration process from within can be a good starting point. Once you have a good process in place, as well as proved that the implementation is possible and it gives you the desired benefits, you can start thinking of the integration of outside parties. Of course, if integrating your business with external stakeholders is something critical for you, you should start with that one. A good example for this is the work we have done with Loadsmart in which we needed to connect our customer with a variety of external parties to ensure that Loadsmart has real-time data.

Today, many looks at supply chain integration from a different point of view. While normally, one would think of integrating supply chain as a function within a

company, often, integration should be looking at the processes regardless of the departments. For example, in certain cases, you need to be able to integrate applications from both the supply chain and finance departments for the best possible collaboration and optimization. Analyzing the business process architecture before deciding on what integration solutions should be implemented will help you to identify the integrations that can have the most significant impact on your business. Looking at supply chain as a set of integrated business processes will allow you to optimize different functions better so that they would add value to your operations.

In a blog on the most critical rules of supply chain integrations, we wrote the following: "Supply chain integration must be elastic to allow parts of the supply chain to be outsourced or new functions to be introduced quickly."

Therefore, it's extremely important that both you and your data integration provider understand your business processes, so you can prioritize which integrations are the most important and start the integration process accordingly. When information flows automatically between various functions, you will be able to make the most out of the data at your disposal.

WHY COMPANIES CHOOSE MANAGED DATA INTEGRATION SERVICES FOR SUPPLY CHAIN INTEGRATION?

During the last couple of years, demand for data integrations have been growing rapidly in the logistics domain as a supply chain that functions well can give a competitive edge to companies. At the same time, demand for managed integration service providers have been also increasing, simply because these suppliers have the experience and the knowledge of developing integrations faster and managing projects well beyond expectations.

Here are some of the reasons why companies choose managed data integration service providers:

1. YOU DON'T NEED TO BUY A TOOL

Most data integration vendors are selling a tool for you. This means that you are likely paying for the tool itself, as well as for the training (if you don't yet have people in-house that can use the tool you chose).

Also, there are significant differences between tools, so when you are in the purchasing phase, you need to ensure that you have a clear understanding of what you need from the integration tool.

If you work with a managed service integration provider, you won't need to worry about the specs of the tool.

iPaaS has been a popular choice among integration tool buyers. We have listed some of the best iPaaS companies in a previous blog.

2. YOU DON'T NEED TO HIRE INTEGRATION ARCHITECTS

Another perk of buying managed integration services is that you do not need to hire integration architects. Instead, the managed service provider's integration architects will develop the solutions for you using the vendor's own tool.

3. YOU GET THE KNOWLEDGE AND EXPERIENCE OF DEALING WITH A VARIETY OF INTEGRATION SCENARIOS

Along the way, you will face a lot of challenging integration scenarios. Often, you will have to deal with hybrid integrations (connecting on-premise and cloud-based applications), harmonize a variety of formats, or understand the business rules.

4. YOU'LL BE ABLE TO SCALE YOUR INTEGRATION STRATEGY AS NEEDED

In case you need to set up more connections or the data volumes would grow, your managed integration provider will be able to accommodate your needs quickly.

5. BONUS: UNDERSTANDING THE DOMAIN AND THE UNDERLYING BUSINESS PROCESSES

Youredi, as a managed integration service provider has been focusing on the global trade domain, thus we have extensive knowledge about the challenges regarding supply chain optimization. Working with a vendor that understands your processes will make the project a lot easier to complete.

Discover how Youredi's integration Platform as a Service (iPaaS) can help your organization to overcome its integration challenges.

Questions
1. Explain what supply chain integration is
2. How to access relevant data by breaking down disparate data stores.
3. We usually agree on the format of the data.
4. Improve data quality as much as possible.
5. Tell us about improving and automating core business processes.
6. How cooperation in the supply chain can be improved.

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