eBook

# HOW TO MANUFACTURE A SMARTER FACTORY

## CHAPTER 2: SUPPLY CHAIN INTEGRATION

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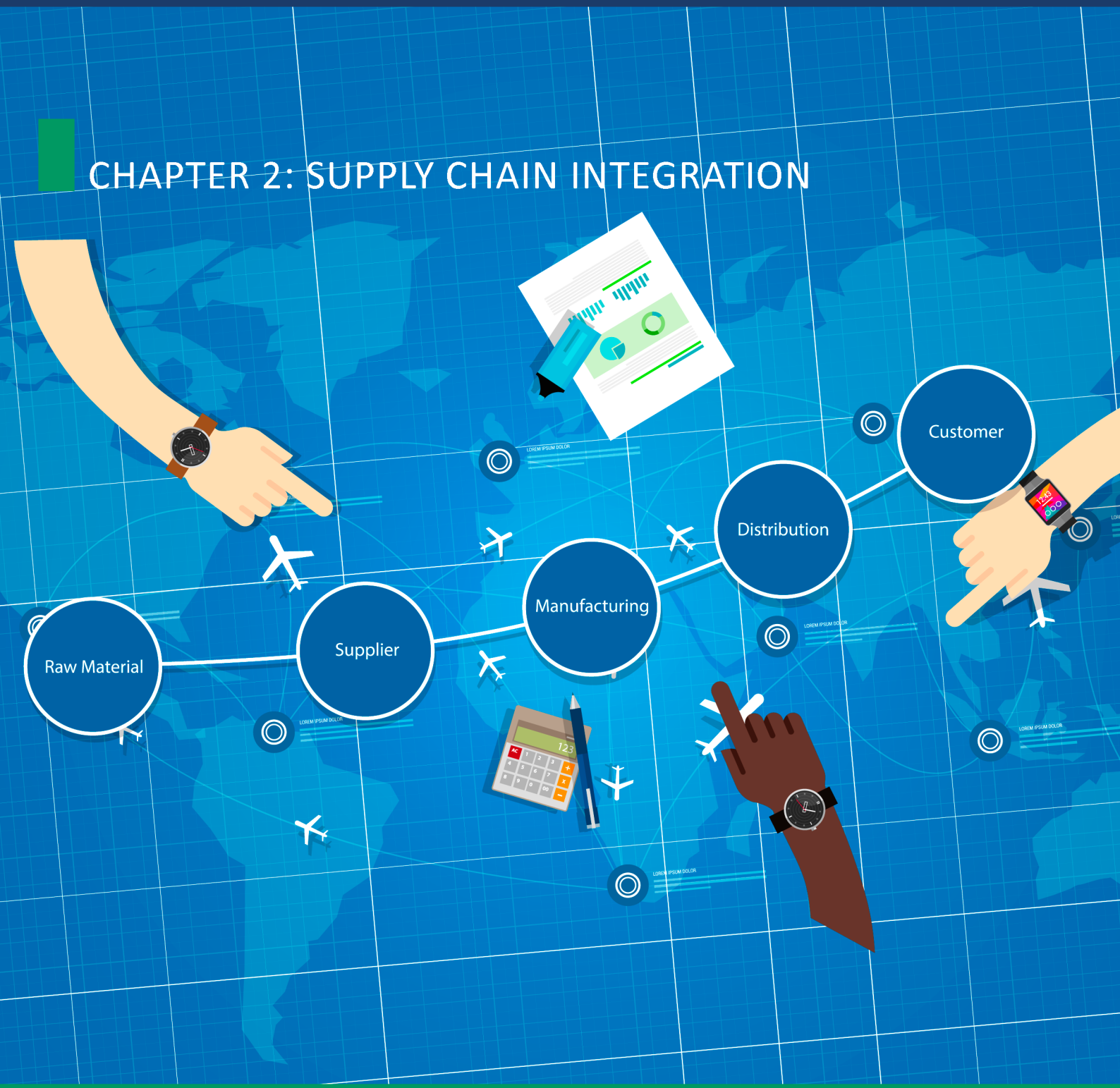


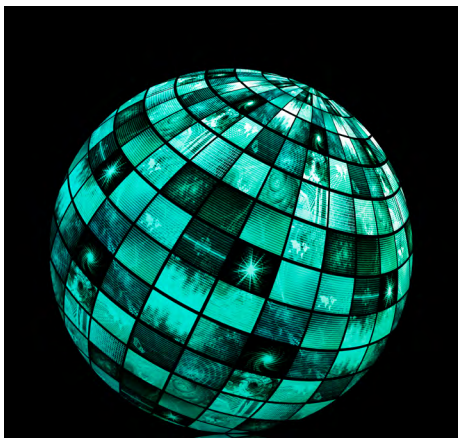

k3 syspro


# CHAPTER 2:
# Supply Chain Integration

If there is one single factor critical to the success of a manufacturing business during Industry 4.0, it is supply chain integration, but this does not just refer to technology and business systems. Whilst it's true that a completely integrated technology stack underpinned by a centralised business system such as ERP is vital to the creation of any connected manufacturing enterprise, it's also important to integrate suppliers, customers and the entire supply chain.

There are various ways you can integrate your supply chain, but the simplest is to select specific vendors to provide specific inputs and develop an agreement for them to provide a set amount of inputs during the year at a set cost. You will need to make sure that your business systems are accessible and open enough to integrate with those of your suppliers and customers, but secure enough not to be accessed outside of this network. Supply chain integration is about bringing parties together through technology, so you can foster closer relationships with all the key stakeholders in your supply chain.

The other route to supply chain integration is through vertical integration, when the supply chain of a business is owned by the business. However, this usually requires an ambitious acquisition strategy that may not be necessary.



## JARGON BUSTER

### Vertical Integration

This is an approach to integration where integration partners are purchased by one entity, in order to instantly gain a position of power in the integration journey. This is the opposite to horizontal integration, which is a more organic approach to integration based upon shared ideologies, standards and goals, where there is no major financial 'owner' of the supply chain.

### Electronic Data Interchange

Electronic Data Interchange is the transfer of data from one computer system to another via standardised message formatting, without the need for human intervention. EDI permits multiple companies to exchange documents instantly, and electronically.

## TOP TIPS

1 Ask your customers what they want. Pinpoint how your customers see value and integrate the supply chain around this point in order to deliver even greater value.

2 Make the most of what you have. You needn't go straight for a vertical integration strategy if you already have good relationships with existing supply chain partners. Look at quick and easy ways you can add some integration into these relationships; for example by trading via Electronic Data Interchange

3 Look at where you can share data. You may already be integrating with a distribution partner, which is sending you data on delivery rates. Are you sharing this with your customers to keep up-to-date with the progress of their order once it leaves your shop floor? Supply chain integration can start small and build up to more effective collaboration.

## In Practice

BPW are one of the world's leading axle suppliers and wanted to seamlessly integrate the way in which it communicates critical data between itself and its parent company through the use of SYSPRO ERP and K3 DataSwitch. When announcing new orders to the parent company, the business previously had a manual approach, which would see staff raise a sales order locally, and then repeat this process in order to raise the order with the parent company.

This involved multiple key strokes, multiple screens, and multiple processes, which resulted in a large paper trail. It was time consuming and admin-heavy, and the business recognised that by automating this process and integrating more effectively with its parent company, it could free up time to spend on other more demanding tasks.

K3 Syspro was able to provide an advanced solution which integrated with the company's existing SYSPRO ERP solution, effectively facilitating the communication of critical data and Electronic Data Interchange (EDI) records to its parent company. This has eliminated administration time previously involved in sales order processing and is enabling the business to place an order via SYSPRO, and have the information automatically transferred to BPW's own server, where, provided it meets all the EDI requirements, it is later transmitted to a remote server before going on to the company's parent company. The order is then confirmed and emailed back to the customer with the individual job number and delivery date, with the entire process taking place once the user clicks 'end' to place an order.

## Why embrace it?

An integrated supply chain can help you to improve your customer retention levels. The more integrated your services are with those of your suppliers, and the demands of your customers, the higher the cost would be when switching to a new supplier. It can also accelerate your responsiveness levels to customers and help you implement a business model transformation.

When you have integrated your technologies and systems with the wider supply chain, the data you will be collecting can be very powerful. Data covering every aspect of the supply chain, from the flow of materials and cycle times to inventory levels and end customer demand patterns, can help the entire supply chain improve efficiencies together, resulting in overall benefits to the customer.

And, of course, when you are working in this integrated way with your customers and your suppliers, it can be a lot easier to reduce costs. By analysing the data you are collecting together, you can start to identify areas of waste and work with the wider supply chain to enable margins to be conserved, while overall prices are reduced.

## TOP TIPS

4 Use your data. Take advantage of SMAC (Social, Mobile, Analytics, Cloud) to access and share the information you are gathering from the supply chain. Analyse information on the go to forecast stock outs and over production, in order to make your own operations leaner. The Internet of Things and the boom of sensor production is making it easier for organisations to collect important data, but this is a pointless exercise if you are not using the data to integrate your supply chain.

5 Take people with you. Like any major ERP implementation, supply chain integration requires people and processes as much as technology. Empower people in your supply chain to share and use data and make sure you have their buy-in and aren't forcing them into an integration strategy that they do not understand.

6 Find the right partner. Integration can be challenging so it will help to hire the services of an integration specialist. A tool like K3 DataSwitch can help you accelerate systems integration and effectively communicate data between different systems and people, to help you translate your Big Data lakes into meaningful data pools.

## JARGON BUSTER

Internet of Things

The Internet of Things is the name used for the network of physical devices, vehicles, buildings and other items such as sensors, which collect and exchange data of the internet, due to the accessibility of cloud computing. In 2013 the Global Standards Initiative defined the IoT as "the infrastructure of the information society." Essentially, the Internet of Things allows data to be collected, moved and shared across a common platform: the internet, creating opportunities for integration of the physical world into computer based systems.

## Useful references

Industry Week Article

Explaining the importance of supply chain analytics.

Dell

Supply chain integration case study.

K3 Dataswitch

A powerful data manipulation and systems integration tool.

## Leading Practice

Dell is well regarded for its supply integration strategy, a three-year plan aimed at redefining the supply chain to increase product choice, increase delivery speeds, and reduce prices for customers, while increasing Dell's own margins.

The company started by asking its own customers where they saw value when purchasing from Dell, and then engaged its network of suppliers to further embed them into the supply chain to collaboratively expand on these value drivers. Following feedback from customers, Dell concentrated on three core areas: configure to order manufacturing, a just-in-time inventory model, and measurement of the cash-to-cash conversion cycle. Not only did this strategy enable Dell to respond more immediately to customer requests, but it also helped the business to improve its own lean initiatives and cut wasted costs out of the supply chain.
Naturally, with a transition to just-in-time inventory, the business needed to integrate its suppliers more effectively into its ordering processes, so that materials could be delivered seamlessly at the point they were required for an order. With a configure-to-order approach. Dell's entire supply chain had to become more reactive around the needs and demands of the customer, it would never have been enough for Dell to adopt this approach alone.


## SNEAK PEEK

CHAPTER 3:
Big Data Analysis - OUT 4th Nov.

Big Data analytics is the process of examining large data sets to uncover patterns, correlations, market trends and various useful business information that had previously been hidden. This chapter will provide some top tips on implementing Big Data into your business, which in turn will provide all the information you'll need to improve areas of value for your customers. We'll look into how healthcare and consumer goods manufacturer (and fellow Salfordians), PZ Cussons, make the most of the data extracted from their SYSPRO ERP solution. General Electric will be the subject of our Big Data leading practice, we'll look into how GE reduced total cost of ownership of their products for customers with GE reducing margins and also pass energy saving advice onto their customers.

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