Digitalising the Supply Chain: Major Foundations for Success

White Paper by Pank Bedaux, Miebach Consulting
Traditional goals of supply chains are no longer sufficient and must be complemented by the customers’ demand for speed, visibility and traceability.
Today’s B2B and B2C purchasing habits and market dynamics are forcing companies to make major changes to their supply chains, since traditional management models clearly neglect the variety of transparent information to which omnichannel customers are accustomed to. In this article, Pank Bedaux, Partner at Miebach Consulting, reflects on how the supply chain has developed and on how the digitalisation changes still pending should be tackled.
Today’s customers are increasingly indifferent towards distribution channels. With customer convenience at the center of market alignment, a seamless purchasing process is expected. As a result, complex omnichannel processes are often perceived as simple “one-channel” operations, including off-and online shopping, using both physical shops as well as online platforms. For the online business, real-time updates and traceability of the customer’s orders have become indispensable. In competition for clients, companies have also taught customers to naturally anticipate free shipping and free returns of their orders.

But, not only the consumer is indifferent towards the complexity of distribution channels, also manufacturers channel frontiers are blurring. Instead of using traditional channels they are now directly connected to the end customer.

This omnichannel distribution requires transports and deliveries to be managed in real time, and this cannot be done without the proper digital tools. Focussing on customer centricity, information must flow seamlessly while order fulfilment decisions require complex algorithms. The traditional goals of supply chains – delivering on time, complete and at a minimum cost – are no longer sufficient and must be complemented by the speed, visibility and traceability demanded by customers.

We should stress that there are many companies that had already applied certain technologies to their products before the topic of digital transformation was widely discussed in the media. While in some cases a genuine technological revolution has taken place, for many others the road to digitalisation implies a gradual evolution of their existing processes.

Installing robots in warehouses or using legacy systems to generate visibility are examples of technological elements successfully integrated in logistics which have been present for some time. When we talk about digitalising the supply chain today, creating an “end-to-end” digital chain, we refer to eliminating the remaining manual tasks – such as printed delivery notes, manual entries of orders, picking lists at the warehouses and calls to inform of incidents.

Focusing on customer centricity, information must flow seamlessly, and order fulfilment decisions require complex algorithms.
What Does the Digital Supply Chain Consist of?

Ideally, the digital supply chain would be a set of mutually interconnected processes that revolve around the client – who is always in focus, constantly online and not faithful to any specific purchasing channel. The digital supply chain is based on four major foundations: industry 4.0, process digitalisation, real-time visibility and digital planning systems. Each cornerstone consists of several digitalisation challenges.

As seen in the diagram on the next page, these four processes are mutually interconnected and although they can work independently, technology must be applied in all of them to enable a digital supply chain.

The Industry 4.0 Concept

The industry 4.0 concept refers to including technology in the company’s physical processes. One example would be the use of big data to forecast the workload and therefore the ability to improve workers’ productivity. Other examples are various technologies such as robots, drones, self-driving vehicles, exoskeletons, identification technology, augmented reality.

Process Digitalisation

Regarding the digitalisation of administrative processes, the goal is to automate all manual processes in order to operate in a more time- and resource-efficient manner and to focus on activities providing greater value to the customer and/or the chain. Some examples of current digital processes are the RPA (robotic process automation), TMS (transport management system) or self-service booths for managing the fleet of trucks and loading bays.

Real-Time Visibility

Real-time visibility is an indirect demand from customers; they want to know the precise location of their order and how long they must wait until delivery. However, it is also a company’s requirement in order to satisfy their customers. They have to provide traceability and know exactly how long each of the following processes will take.

Visibility helps companies to improve their response times and to be more cost-effective. For example, planning distribution routes knowing all the deliveries to be made and their location generates efficiencies, speeds up deliveries and reduces expenses. Some of the technologies applied in this field are RFID, blockchain, and video recognition.

Digital Planning Systems

Digital planning systems are tools that enable us to modify and dynamically transform supply chains, adapting these to demand in today’s extremely volatile markets. For example, sales and operations planning processes use software with advanced algorithms for smart prediction of sales enabling collaboration with other departments and customers. This helps to plan production, transport and storage (in the short and medium-term), and to design the transformation of the company’s supply chain in the long term.
The Four Major Foundations of the Digital Supply Chain

- Real-Time Visibility
- Industry 4.0
- Digital Planning
- Digital Processes

Omnichannel Customer Centricity
Another issue that has evolved is the approach to digital transformation projects. Many of which were put into practice at the initial stage were extremely costly and experienced high risks of failure. Today, things have shifted and costs for technology have dropped considerably meaning that companies are able to focus on specific aspects, get faster results and minimise their risk of failure.

When a digital transformation project is initiated, the first necessary step is to define an objective model. This effective procedure for implementing innovations comes from the apps sector, where speed and providing value in a short period is essential. It consists of small easily-implementable projects to discuss whether they contribute value to the supply chain or not. Once they have been tested and proven effective, they can be developed further, made more sophisticated and rolled out on a large scale.

One highly recommendable way of doing this is to apply a methodology called “Design Thinking”, which proposes a number of concepts to avoid failure:

- Explicitly structure the problem that has to be solved.
- Generate in-depth knowledge of the problem to be solved.
- Hold workshops to develop the solution.
- Work with prototypes.
- Create a first minimum version to quickly test this and later improve it.
From Theory to Practice: Three Case Examples of Digital Transformation

Pharmaceutical Industry
This sector is characterised by being increasingly competitive, leading companies to work with tighter prices and forcing them to achieve more efficient models.

Miebach Consulting was contracted by a global pharmaceutical company to audit the whole supply chain with the aim of increasing service levels and reducing logistics costs. This evaluation identified an improvement in the efficiency of the order-to-cash process by implementing an RPA (robotic process automation of repetitive tasks). The result was a 60% drop in the process work-load.

Automobile Sector
The demand for electrical vehicles requires building new production plants and lines. This greenfield design is seen in the industry as an opportunity to implement a digital supply chain.

A leading OEM contracted Miebach Consulting to cooperate in the 4.0 design of a plant, defining a range of feasible technologies and their application criteria which is being used to select the logistics solutions for the new factories.

Cement and other Building Materials
In this case, a cement and concrete-producing company sought to improve its customers’ experience by opening an online shop. Nevertheless, the purchase and delivery of the products required information and feedback in real time (is there stock? Is there capacity to store this? When can the delivery be made?). A digitalised chain was needed.

Miebach Consulting defined a global target model for Order Taking & Fulfilment, selected a best of breed technology and developed several pilots which confirmed the value of the project for the cement company and its customers.
Miebach Consulting: The Supply Chain Engineers

Miebach Consulting offers international supply chain consulting and engineering services in production and logistics in 24 offices worldwide. Our customers are medium-sized companies as well as corporate groups who want to improve and expand their competitive position with innovative logistics solutions. With over 370 employees and more than 10,000 successful international projects, we are one of the leading international consulting firms for logistics and supply chain management. For more than 45 years we have been supporting our customers with what we stand for: Supply Chain Excellence.

2020
- 24 Offices worldwide
- 370 Employees

We will be gladly available to discuss this topic with you in person and more.

Miebach Consulting Group
Untermainanlage 6
60329 Frankfurt am Main
Germany
Tel.: +49 69 273992-0
sales@miebach.com
www.miebach.com