What is SCM (Supply Chain Management)?

At the most fundamental level, supply chain management (SCM) is management of the flow of goods, data, and finances related to a product or service, from the procurement of raw materials to the delivery of the product at its final destination.

Although many people equate the supply chain with logistics, logistics is actually just one component of the supply chain. Today’s digitally based SCM systems include material handling and software for all parties involved in product or service creation, order fulfillment, and information tracking―such as suppliers, manufacturers, wholesalers, transportation and logistics providers, and retailers.

Supply chain activities span procurement, product lifecycle management, supply chain planning (including inventory planning and the maintenance of enterprise assets and production lines), logistics (including transportation and fleet management), and [order management](https://www.oracle.com/hk/scm/order-management/). SCM can also extend to the activities around global trade, such as the management of global suppliers and multinational production processes.

## **The history of SCM**

Supply chains have existed since ancient times, beginning with the very first product or service created and sold. With the advent of industrialization, SCM became more sophisticated, allowing companies to do a more efficient job of producing and delivering goods and services. For example, Henry Ford’s standardization of automobile parts was a game-changer that allowed for the mass production of goods to meet the demands of a growing customer base. Over time, incremental changes (such as the invention of computers) have brought additional levels of sophistication to SCM systems. However, for generations, SCM essentially remained a linear, siloed function that was managed by supply chain specialists.

The internet, technology innovation, and the explosion of the demand-driven global economy has changed all that. Today’s supply chain is no longer a linear entity. Rather, it’s a complex collection of disparate networks that can be accessed 24 hours a day. At the center of these networks are consumers expecting their orders to be fulfilled―when they want them, the way they want them.

We now live in a time of unprecedented global business and trade, not to mention continual technology innovation and rapidly changing customer expectations. Today’s best [supply chain strategies](https://blogs.oracle.com/scm/5-strategies-for-better-supply-chain-management-in-the-current-economy) call for a demand-driven operating model that can successfully bring people, processes, and technology together around integrated capabilities to deliver goods and services with extraordinary speed and accuracy.

Though SCM has always been an enterprise fundamental, the supply chain today is more vital than ever as a marker for business success. Companies that can effectively manage their supply chain to adapt to today’s volatile and ever-changing, technology-driven business environment are the ones that will survive and thrive.

## **Industry 4.0 and SCM**

Today’s application of radical new technologies to manufacturing has been dubbed Industry 4.0, or the “fourth industrial revolution.” In this latest iteration of industrialization, technologies such as AI, machine learning, the Internet of Things, automation, and sensors are transforming the way companies manufacture, maintain, and distribute new products and services. It can be said that Industry 4.0 is built on the supply chain.

In Industry 4.0, the way enterprises apply technology to the supply chain is fundamentally different from how they applied it in the past. For example, within the maintenance function, enterprises would typically wait until a machine malfunctioned to fix it. Smart technology has changed that. We can now predict failure before it happens, and then take steps to prevent it so that the supply chain can continue uninterrupted. Today’s SCM is about using technology to make the supply chain―and the enterprise―smarter.

Industry 4.0 SCM also provides a significant advantage over traditional SCM because it enables aligned planning and execution while at the same time delivering substantial cost savings. For instance, companies that operate under a “plan-to-produce” model—in which product production is linked as closely as possible to customer demand—must create an accurate forecast. That involves juggling numerous inputs to ensure that what is produced will meet market demand without exceeding it, avoiding costly overstocks. Intelligent SCM solutions can help you meet customer demand and financial objectives at the same time.

Intelligent SCM has other advantages, too. For instance, it can free up supply chain employees to contribute to the business in ways that add more value. Better SCM systems that automate mundane tasks can equip supply chain professionals with the tools they need to successfully deliver the products and services the supply chain is designed around.

## **Today’s SCM is all about the customer**

SCM has historically been about increasing efficiency and reducing costs. Although those needs haven’t changed, what has changed is that the customer is now playing a front-and-center role in setting SCM priorities. It’s been said that “customer experiences live and die in the supply chain.”

Customer loyalty is predicated on an enterprise being able to quickly and accurately fulfill customer expectations. Raw materials, manufacturing, logistics, and trade and order management must all be coordinated to get a given item to the customer within a reasonable timeframe. To accomplish this, companies must look at their supply chains through their customers’ eyes. It’s not simply about getting the order to the customer on time; it’s about doing everything at the right time—before, during, and after order delivery.

## **Supply chains and their need for agility**

Today’s supply chain is broad, deep, and continually evolving, which means that it must be agile to be effective. In the past, supply chains met enterprise and customer needs through a beginning-to-end model that was largely unaffected by change. Consumers now have multiple choices in how they purchase products—in stores, online, and more. They’ve also come to expect increasing levels of customization. An agile supply chain can deliver on those expectations.

Not only that, supply chain sourcing has become very fluid. For example, geopolitical and economic developments can substantially impact the manufacturing supply chain. If a manufacturer needs aluminum and can’t get it from one supplier due to a trade policy, that manufacturer must be able to quickly pivot to source the aluminum elsewhere. The ability to rapidly reconfigure your supply chain is essential to successfully addressing this type of scenario. Agility is crucial to achieving these types of real-time reconfigurations.

Challenges in the supply chain extend beyond efficiency and cost management issues. Changing circumstances can impact regulatory compliance as well. Your SCM system must be flexible enough to mitigate all the impacts that are generated by changes in the supply chain, including changing and varied regulatory requirements. An intelligent SCM system can help you be more efficient and reduce costs while remaining compliant with a variety of ever-changing legal mandates.

## **SCM and the cloud**

With today’s SCM parameters, the cloud is a natural ally, in part because cloud-based applications are inherently more flexible and adaptable to change. It’s very difficult to adjust on-premises and custom-coded applications in response to the fluctuating circumstances that regularly occur in today’s enterprise environment, such as an unexpected sourcing issue. Cloud solutions are also inherently architected to make better use of the technologies that are becoming pervasive in the Industry 4.0 model. Retrofitting your environment so these technologies can function on legacy applications is both complicated and expensive.

Another significant benefit of integrating the cloud into your SCM system is that you can adopt elements of cloud-based SCM depending on your specific business needs, without undertaking a full-scale migration. Many companies find themselves with a short-term need to rationalize their move to the cloud. The best SCM systems help you extract more value from your current assets and customize your cloud integration to suit your SCM needs, both now and into the future.

## **Traceability, repudiation, and trust with blockchain**

You need to know what’s taking place in every aspect of your supply chain at all times. Intelligent SCM solutions give you that capability. When you’re considering SCM solutions, look for a system that uses blockchain to make visibility and insight easy for you by building those capabilities right into the SCM processes. This ensures traceability, repudiation, and trust throughout your supply network.

The food industry in particular stands to benefit greatly from this type of SCM. For example, it’s been instrumental in helping LiDestri Food and Drink manage a very complex supply chain for increased visibility, more accurate forecasting, and greater profitability while building deeper trust between the company and its customers.

Today’s leading-edge SCM systems are end-to-end product suites that help businesses manage and optimize their supply chains as one complete ecosystem. Because they are fully integrated cloud technologies, these systems enable 100% visibility across the supply chain and scale up or down to react to market reality. With a modern, demand-driven supply chain, you can meet the challenges of increased customer expectations, shorter product lifecycles, and fluctuating demand.

## **The future of SCM**

The supply chain of the future is all about responsiveness and the customer experience― understood and managed within a network rather than a linear model. Every node of the network must be attuned and flexible to the needs of the consumer while also being capable of addressing factors such as sourcing, trade policies, modes of shipment, and more.

Advanced technology will increasingly be used to improve transparency and visibility throughout this network, as well as to further enable connectivity and SCM utilization. The entire SCM planning function will become more intelligent to take consumer demands into account. The ability to adapt will be a mandate.

In the past, supply chain planning has been a periodic business exercise. Heading into the future, it will be continuous. Future SCM systems will also bring tighter alignment between planning and execution, which is not a current state for most enterprises. The need for speed and accuracy in SCM is only going to increase. Make sure your supply chain is ready for the future by supporting it with an intelligent SCM system.