

# Industrial Real Estate— Today's Supply Chain

by Garry S. Weiss, SIOR, CCIM, and Rene Circ

One of the most discussed topics in corporate boardrooms these days is supply chain management. Borrowing from Ram Ganeshan and Terry P. Harrison<sup>1</sup>:

“A supply chain is a network of facilities and distribution options that performs the function of procurement of materials, transformation of these materials into intermediate and finished products, and distribution of these finished products to customers.”

More simply, supply chain consists of the entire list of functions a company performs to satisfy its end-customer, including manufacturing, logistics, finance, marketing, planning and forecasting and, most recently, customer service.

## **Depiction of Traditional Supply Chain**

Many books and articles have been written about supply chain management by both academia and corporate professionals, discussing topics ranging from definitions and simplistic overviews to very technical cost-benefit analyses. One aspect, however, is never presented: industrial real estate. This can be surprising considering industrial real estate is present in every function from product development (research & development facilities), through product creation (heavy and light manufacturing), to ultimate storage and distribution (warehouse distribution buildings).

This article provides a brief overview of the evolution of supply chain management, the current trends, their impact on industrial real estate, and a profile of today's real estate professional.

## **History**

Supply chain management is not a new topic. Supply chains have been around since the beginning of commerce. Historically, they dealt with transportation of goods. Even before the industrial revolution, local tradesmen needed to figure out how to get their products to the market. Transportation-related issues remained synonymous with supply chains until the 1980s, when companies such as UPS and FedEx started to guarantee delivery times, allowing for better planning and forecasting.

In the early 1990s, manufacturers started to outsource their warehousing and distribution functions to third-party logistics (3PL) providers, adding “management” to their “supply chains.” Today, this function is no longer considered

of back-end operational character. Companies no longer compete with each other directly, but use their supply chains as a competitive tool. The difference between a well-integrated supply chain and an ad-hoc operation translates into gain or loss of market share.

## **Trends**

The shift of focus from company-to-company competition to supply-chain-to-supply-chain competition has resulted in two main trends: outsourcing and applied technology.

### **Outsourcing —**

Historically, companies had vertically integrated supply chains that were completely disconnected. Companies like Ford owned most aspects of production, including steel mills. The current trend is to focus on core competency and collaboration. Supply chains are becoming increasingly interconnected with competing original equipment manufacturers (OEM) using the same suppliers.

The origins lie in cost minimization and product customization. As product life cycles become shorter and more and more products become commodity-like—reducing margins—manufacturers shift from build-to-stock to build-to-order. Dell is a favorite example in much of the literature. In 1994, Dell Computer was a struggling PC box manufacturer. By redesigning their supply chain, outsourcing their manufacturing function, and building-to-order (thus reducing inventory costs), Dell became the world's leading PC seller in 2001, knocking Compaq off the post.

In addition to outsourcing the manufacturing function, warehousing and distribution are falling outside of the core competency of more and more companies. Major companies, Abbott Laboratories, Compaq, Ford, Nabisco, Wal-Mart, Unilever, Whirlpool, are already relying on 3PL's to handle their inventory and distribution functions. Once again, cost reduction is the primary driving force, resulting in an explosive growth of the 3PL industry.

### **Applied Technology —**

The second major trend is application of technology to not only production, but also to the entire supply chain. This trend started with inventory tracking software and electronic data interchange (EDI). The result was more efficient inventory handling and better balance between demand and production.

The incorporation of the Internet shifted supply chain management to the next dimension. Today, OEMs, their suppliers and end customers can be connected to the same IT system, not only allowing for quantity supplied matching demand, but also the individual products matching their demanded specifications. Once again, Dell is a perfect example of a company doing business online, selling customized personal computers without having any inventory of finished product on hand. Another example is Procter & Gamble and Wal-Mart, who partnered up and pioneered a continuous replenishment system. This system allows P&G to replenish Wal-Mart's stores without specific purchase orders originated by Wal-Mart. Instead, it is based directly on product movement data, which the two companies share.

## **Impact on Industrial Real Estate**

To a real estate professional, it is clear that changes in supply chain management must translate to changes in demand for industrial real estate. Unfortunately, there is no good source that has done the math. Is demand for space going to outperform or underperform the growth in GDP? Who is going to need space in the future, the OEMs, their suppliers, or 3PLs? And, finally, what type of space is going to be in demand? Before we can speculate about the future, let's take a look at what has happened so far. After all, these major trends have been around for more than a decade.

### ***Demand for Space —***

No doubt, the growth in industrial space has not been able to keep up with the growth of GDP in the 1990s. In 1990, there was one industrial square foot of space for every \$699 of real GDP. This ratio grew to \$770 by 1995 and \$866 at the end of 2000. This translates into a disparity of \$167 in just 10 years. In comparison, during the 1980s, the ratio increased by only \$33 per square foot. Of course, this analysis is not completely fair. The U.S. economy has been transforming from a manufacturing to a service economy. Therefore, a comparison of the manufacturing component of GDP might be more accurate. This analysis, however, yields similar results. In the 1990s, manufacturing GDP per industrial square foot grew by \$28, from \$53 to \$81, while the growth in the 1980s was only \$5. This divergence of growth between industrial real estate and real GDP can be attributed to increased efficiency, and thus supply chain management. An argument for growth in productivity needs to be made, but after all, productivity grew because of application of new technology, which is one of the two major trends in supply chain management.

### ***Who is Demanding Space?***

Everybody. In short, current trends in supply chain management are good for industrial real estate professionals, because they create activity. 3PL companies are leasing and building new facilities. For example, USCO has built a 500,000-square-foot distribution facility in McDonough, Georgia, to better service Wal-Mart. Exel Logistics has leased more than 770,000 square feet in Middletown, Pennsylvania, because of its client, Lipton Tea.

Although there has been an increase in activity from 3PLs, OEMs and their suppliers are active in the market as well. The biggest build-to-suit originated in 2000 was a 1.7-million-square-foot distribution center built by First Industrial for Procter & Gamble, an OEM, in Mehoopany, Pennsylvania. Tower Automotive, a supplier, built a 250,000-square-foot warehouse in Lansing, Michigan.

In addition to leasing and build-to-suit activity, multiple building sales result from outsourcing and collaborative manufacturing. Companies such as Cisco, Dell, IBM, and Motorola are deciding not to make their products themselves. Instead, they are expanding the role of their suppliers, who no longer supply just parts but finished or nearly finished products as well. These suppliers, in many cases, purchase the OEMs' old factories, generating sale activity and, in turn, benefiting real estate professionals.

Finally, in some cases, supply chain reconfiguration results in some excess space. Fortunately, the real estate industry has already created a name for this space, "surplus real estate," and is ready to deal with it. This space can either be sold to a user outside of the original supply chain, or redeveloped. Both cases generate activity, benefiting real estate professionals.

### ***What Type of Space —***

The type of space that is in demand is directly related to the ongoing changes in supply chain management. Buildings are bigger, ceilings are higher, and docks are located along two walls. Distribution facilities are in style. Just a few years ago, a 400,000-square-foot building was considered large in most markets. These days, heavy distribution buildings exceeding 500,000 square feet are being built in secondary markets. The largest markets are seeing buildings close to, or even exceeding, one million square feet. Nevertheless, other types of buildings are being built as well. In 2000, 28.6 million square feet of manufacturing space was completed, representing the fourth best year since 1989. R&D/Flex construction performed even better, recording its third best year since 1989 and adding 25.2 million square feet.

### ***The Future —***

While supply chain professionals are discussing whether the industry is moving from company vs. company competition to supply chain vs. supply chain competition, or competition along entire supply networks, real estate professionals are more interested in the makeup of the future demand. We must admit that it would be surprising if the current supply chain trends resulted in an overall increase in demand.

Once the transition from build-to-stock to build-to-order reaches the second- and third-tier suppliers, the demand will slow. However, considering the size of the market (approximately 25 billion square feet), and the activity this transition is generating, industrial real estate professionals are in for an exciting ride.

## **Today's Real Estate Service Providers**

As day-to-day practitioners in the space market, it is clear that today's real estate transaction specialist must be versed in the supply chain intricacies of the client. Real estate decisions are strategy decisions for corporate America. Real estate departments are the tactical units within the corporation implementing the strategy relative to its space utilization.

The location, layout/design, efficiency, and functionality of today's industrial properties are critical elements of the throughput of the product. Logistics is no longer just inventory control and transportation channels. Entire corporate platforms revolve around a company's supply chain model from research/product development, to manufactur-

ing, to distribution, to finished goods storage.

Effective service providers are becoming adept at understanding the needs of the client through each component of the chain. This is where the value is to the client. As American companies advance their global presence and as international companies secure space in North America, the transaction specialist can become much more than just a locator of space if the client's supply chain is fully understood. Even the U. S. government's defense system is a continuous flow of supply chain efficiency and logistics.

The industrial transaction specialist of tomorrow will need to be versed in the dynamics of supply chain systems and the collaboration models that are forming between supplier, manufacturer, distributor, and the client (the owner of the brand). Industry publications such as *Global Logistics & Supply Chain Strategies* and *Supply Chain Technology News* are good resources. Industry groups such as the Mass Retailers Association and Council of Logistics Managers are valuable groups in which to become involved.

As America continues its shift to a marketing and distribution economy, the integration on the various components to the finished product will be affected further by the company's supply chain strategy. By familiarizing ourselves with the process and company operations, the transaction specialist will become, in time, more valuable to the client.

## Understanding Client Needs Means Business

As a transaction manager, take advantage of this time in our economic climate to understand the business and product cycles of your customers. Take note of the distribution patterns and industry trends in place.

Start by touring company facilities and talking to warehouse and production managers. Attend conferences on logistic trends and industry specialization. Publish newsletters within your submarket sharing your knowledge with your potential customer base. Spend time with the speculative developers in your marketplace to understand the requirements that users are requesting within new buildings. Your understanding of these trends will not only help your clients but will benefit the product being built in the market and the future of distribution space and supply chain efficiency.

As it is said, the only thing that is constant is change. The industrial supply chain will continue to realign itself and the commodity is industrial real estate. Building technologies will always improve. The challenge to the transition specialist will be in understanding the true operational needs of the client and matching the changing real estate product to the supply chain processes of the client. Bigger and better may not always be the answer. Begin with the client and the product, layer on transportation factors and infrastructure and then match these inputs with the real estate solution.

It is a dynamic process with integration and collaboration among many disciplines. In the end, regardless of the systems, technology and evolution of the finished product—the industrial real estate facility—is the tangible physical component present. ❖

[http://silmaril.smeal.psu.edu/misc/supply\\_chain\\_intro.html](http://silmaril.smeal.psu.edu/misc/supply_chain_intro.html)

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Endnote:

<sup>1</sup> Ganeshan, Ram and Harrison, Terry P. *An Introduction to Supply Chain Management*. Penn State University,