The Health of the Healthcare Supply Chain

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Introduction

Minimizing inventory and improving efficiency—that’s how companies in most industries control supply chain costs. Missing a few sales is less important than keeping inventory under control.

But the concept of “too much inventory” loses its relevance when people’s lives depend on product availability. That’s a key reason why healthcare product companies have historically focused on developing new products, manufacturing them safely and reliably, and creating demand for them in the marketplace, not micromanaging supply chain costs. When new products make it through the cost and complexity of development and regulatory approval, the number one rule has been to get them into the hands of practitioners and patients—and never run out. In the cost-service-quality tradeoff, cost is the short leg of the stool.

Priorities are shifting as the healthcare supply chain continues to increase in complexity, with a rapidly evolving channel and distribution network and every country in the world being part of the overall ecosystem of production and consumption. Ongoing macroeconomic and regulatory events are constantly changing the shape of the competitive and operational environment in which supply chain managers make their strategic and tactical decisions. With a goal of improving and extending lives for 7 billion people, limiting healthcare’s cost to society has become a critical priority.

At the same time, the industry faces a rapid rate of change for new therapies and diagnostics and a proliferation of products, many of which require specialized distribution networks. In the U.S., generics are increasingly being sourced directly by large retailers who are procuring these drugs the same way they do other commodities. Also, a new host of biological and human plasma-based drugs require a completely different supply chain—the cold chain. These drugs must be kept in controlled environments and have very specific shelf-lives, often tied to the temperature and humidity of their surroundings. The scale and scope of change is unprecedented.
Today’s healthcare executives are under intense pressure as they face increasing competition in this world of complex government regulations, product portfolio expansion, managed care policies, and patient demands to control their own care—realities that have impacted and continue to diminish the comfortable profit margins enjoyed by the industry for many years. The tradeoff equation is shifting, with boards and shareholders now expecting companies to balance product availability with cost management, moving efficiency and effectiveness in operational execution and logistics higher on the management priority list.

Many healthcare companies struggle to align their cost structure with market expectations. Participants in UPS’s most recent Pain in the Chain survey say that their companies are underperforming; Over the past five years, at least half of all respondents have consistently indicated concern or lack of success with managing supply chain costs. Another study from 2012 made the bold statement that supply chain management is an area that the pharmaceutical industry knows least about.

Six ways high-performing companies drive efficiency

While every management team approaches these challenges differently, high-performing companies can tune performance and increase efficiency by using a set of core disciplines to align their supply chain with the demands of the healthcare industry:

- They view the supply chain as a **strategic asset** to their company and align it with the overall business strategy.
- They develop an **end-to-end process architecture** by creating processes that are integrated across the entire supply chain.
- They are deliberate in **designing their organization for performance**, designating supply chain executives as key members of the C-suite and building and maintaining the skills needed for long-term success.
- They build an **effective model for collaboration**, leveraging a wide range of partnerships for maximum strategic and financial benefit while understanding and protecting core competencies.
- They use **metrics to drive success** by making performance of critical supply chain processes highly visible and actionable.
- They regularly **examine the overall health** of their supply chain assets and infrastructure to identify gaps and make adjustments.

Effective executive teams have a laser focus on the overall health of their supply chain, constantly evaluating performance and adjusting the physical footprint and processes to accommodate market demands efficiently.
Use the supply chain as a strategic asset

High-performing companies understand that a well-run supply chain drives success not just by controlling costs, but also by creating value. Tight alignment between supply chain strategy and business strategy enables ongoing and immediate responsiveness to changes in the business environment; the best performers constantly search for new ways for their supply chains to add value and push the boundaries of performance. In a 2012 survey of more than 1,300 supply chain executives across multiple industries, fully 93 percent said that a high-performing supply chain can accelerate new product introductions and 89 percent cited an effective supply chain as an enabler of expansion to new market segments or geographic regions.5

While the need for operational and strategic alignment may seem self-evident, for many years—and despite enormous R&D expenditures—the ability to set pricing meant that many pharmaceutical, biopharma, and medical device companies could recover development costs while still enjoying healthy margins. The supply chain organization’s mission was therefore relatively tactical: manufacture and distribute a product of flawless quality, while ensuring readily available supply whenever and wherever it was needed. Cost, while not exactly an afterthought, was not the primary driver of operational strategy. In other words, a “good enough” supply chain was sufficient to make good on the promise of the business strategy. Constant evaluation and refinement wasn’t necessary once a reliable infrastructure was in place.

Today, this is no longer sufficient. Most successful healthcare companies understand the supply chain must be an integral part of their business strategy and a source of value creation, enabling expansion into new products, advanced technologies, specialized applications, and new markets and geographies.

A supply chain strategy involves many interlocking activities and decisions, large and small. Strategy expert Michael Porter teaches that successful business strategy relies on the concept of “fit”—a group of activities that support a chosen basis of competition. Although any single activity can be copied, the activities taken together form a system that is virtually impossible to duplicate.6

The “fit” concept holds equally true for the accompanying supply chain strategy with five fundamental elements:

- **Customer service**: Objectives for delivery speed, accuracy, and flexibility
- **Sales channels**: How customers will order and receive products
- **Value system**: Specification of which supply chain activities will be performed in house and which by partners
- **Operating model**: How planning, ordering, production, and delivery processes will be managed
- **Asset footprint**: Where specific supply chain resources will be located
Companies often make decisions about each of these elements in isolation. To get the full strategic benefit a supply chain can offer, however, each element must be treated as part of an integrated whole in the context of market conditions and the long-term business strategy.

**Customer service**
The first step in developing a supply chain strategy is to understand the customer service objectives laid out in the business strategy. Offering various levels of delivery speed, accuracy, and flexibility for different product categories and customers can help distinguish the overall customer experience. In healthcare, this means establishing distinct service levels depending on geography, customer, and distribution method.

**Sales channels**
Healthcare companies have multiple options for getting products to practitioners and patients. They can use indirect channels—typically industry distributors—or they can sell directly to hospitals, pharmacies, or physicians. A small percentage of pharmaceuticals and many medical devices are sold directly to patients. The market segments and geographies being targeted will drive these decisions. Since profit margins vary depending on which channels are used, deciding on the optimal channel mix must be tuned to the specific business objectives.

**Value system**
An effective supply chain strategy requires a solid understanding of the company’s value system, which, according to strategy expert Michael Porter, encompasses the value-adding activities of the enterprise as well as those of suppliers, customers, suppliers’ suppliers, and customers’ customers. This understanding will help determine which supply chain activities will be performed by the company in question and which by its partners. Some healthcare companies outsource manufacturing and many turn to third parties for product distribution.

**Operating model**
Taken together, the decisions about how a company manufactures products and offers services constitute its operating model. These decisions affect more than production. They also shape how planning, order management, procurement, and physical delivery are handled. The operating model can provide a key source of performance advantage if it is responsive to changes in demand throughout the product life cycle, from launch to exit. This is especially true in the healthcare industry where companies must be poised to recover substantial R&D costs once a product is given the green light by regulators.

**Asset footprint**
The final element to be considered in defining a supply chain strategy is the asset footprint. This includes not only hard assets such as plants, warehouses, equipment, and distribution facilities, but also soft assets like people, processes, information systems, and access to capital. The location, size, and purpose of these assets have a major impact on supply chain performance.

While healthcare companies have historically been slow to recognize the strategic value of their supply chains, intense pressure from competitors, regulators, consumers, and investors has forced a shift in perspective about operational tradeoffs and priorities. Savvy executives understand that a business model tied to a differentiated supply chain capability is key to long-term success. For many companies, the supply chain is the key to achieving the right mix of service, speed, flexibility, and cost to win in the market and conversations about business strategy align closely with supply chain performance priorities.
Create an end-to-end architecture

A process architecture maps out the activities of the entire supply chain. Companies with high-performing supply chains design an integrated architecture in which the core processes associated with planning, procurement, production, order fulfillment, and logistics work together in a highly coordinated fashion to serve as a source of competitive advantage.

The architecture describes how the entire supply chain will operate, not only during normal conditions but also in the event of an unanticipated disruption. It must be flexible, reliable, and adaptable to changes in the business environment. Most importantly, process architecture must support a company’s basis of competition; in the healthcare industry these range widely. Companies that produce generic drugs compete based on cost, wide availability, and shelf space. Those that produce specialized biologics direct their products to specific diseases, conditions, or locations. Medical device manufacturers need products that can be configured and customizable to suit a spectrum of patients.

A robust supply chain process architecture satisfies several key tests:

**End-to-end scope**
The architecture encompasses all interactions between internal functions as well as interactions with suppliers and customers.

**Strategic fit**
Processes feature industry and market-specific practices that support the supply chain strategy.

**Reliability**
The supply chain architecture is reliable, providing documented processes, accurate data, and integrated technology.

**Adaptability**
Processes are adjusted to reflect organizational learning and changes in strategy. Once established, the overall supply chain process architecture should be relatively stable, though opportunities for improvement and process upgrades should be evaluated on a continuous basis. Evaluation of a given process may trigger a revised analysis of the underlying activities, identifying key changes required to meet the company’s objectives.
For healthcare companies, of course, much of their process architecture is influenced by government-imposed regulations that mandate minimum standards to ensure product safety and reliability. Promotion and awareness of regulatory requirements as a management responsibility are required of all healthcare product companies, regardless of where their products are sold or distributed.

Similarly, supply chain process architecture in the healthcare industry must be designed to comply with several other guidelines, known as “GxP”. For example, Europe uses Good Distribution Practice (GDP), which deals with requirements for distribution of medicinal products for human use and Good Transportation Practice (GTP), which governs proper domestic and international transportation of medicinal products.

But strict guidelines for product manufacture, distribution, and transportation and a strategic supply chain process architecture are not mutually exclusive. On the contrary, high-performing healthcare companies work within the GxP framework to define processes and management practices that support the chosen strategy and basis of competition through flexibility, reliability and adaptability. This is especially important for the supply chain because of the cross-functional nature of many of its activities. In addition, because today’s supply chains are global, clear and unambiguous processes are fundamental to synchronize activities.

Defining these processes is the easier part. The bigger challenge is upgrading processes on the basis of experience and achieved performance. Upgrading processes, which needs to be done on a regular basis, requires clear process ownership. It’s usually clear who the owners of functional processes such as manufacturing are; However, ownership of processes that cut across multiple functions, such as planning and order fulfillment, are often difficult to determine—so it’s important to have a senior supply chain executive overseeing the entire system.

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The thousands of supply chain activities conducted every day also depend on a wide range of data and analytics that compare actual performance with targeted performance. Yet many organizations struggle to keep critical data accurate. One study estimates that for the average company, almost 20 percent of master data are out-of-date and incomplete. Data structuring and cleaning are top priorities for companies with advanced supply chain practices. These companies use data quality indicators and automate data management processes through applications that highlight discrepancies and their sources. They also ensure proper data governance starting with the assignment of data owners.

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Get a seat at the table

The days of supply chain operations as a cost center are winding down as CEOs in all industries are turning to their supply chain as a competitive differentiator. This progression has been accompanied by a transformation of the role of senior operations executives. Successful supply chain executives have a broad range of experience; they not only understand the core supply chain processes but have experience with other functions including sales, marketing, finance, and research & development. Whether they use the title of vice president of operations, chief supply chain officer (CSCO), or some other designation, the head of the supply chain function should have a place in the C-suite.

Titles on an organization chart are far less important than how actual relationships and responsibilities work within a company. When the leader of the supply chain organization is a member of the executive management team and has input into major strategic decisions, it’s much more likely that the company will be able to deploy a differentiating supply chain strategy.

As an example, pharmaceutical companies that design new product supply chains during drug development can increase compliance with regulatory requirements and balance the risk of clinical failure with speed to market, enabling a robust and responsive supply chain after launch. The supply chain management team can start planning when and where to make the new product and how to get it to distributors and clinicians—all with an eye toward the long-term product success while optimizing manufacturing and distribution. This is only possible when the supply chain function is accorded the same influence as other critical functional areas and charged with working across functions to eliminate silos.

In the not-so-recent past, an operations executive’s charter was simple: Deliver products when needed, with the required quality, at a reasonable cost. The engine behind this imperative—the supply chain—was largely invisible to customers and shareholders, while the workings of product development, sales, finance, and marketing were considered the drivers of the company’s overall strategy.

Today’s reality is different. One executive likens today’s Chief Supply Chain Officer to an orchestra conductor, noting that defining, managing, and directing an entire supply chain requires a level of coordination that was not needed in the past.

“Before, we were managing departments,” he says, “now we are managing processes. It’s a different level of complexity.”

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Keep your core strong and outsource deliberately

Effective supply chain leaders know which activities are—or have the potential to become—core competencies for their company, defined as the collective skills and learning inside an organization that create competitive advantage. They and the rest of the C-suite keep these critical activities in-house or outsource them to only the most trusted partners. They constantly reassess which activities may be better performed by a third-party provider.

An activity or process that a company excels at isn’t necessarily a core competency and, conversely, areas of less-than-optimal performance may in fact be core to the company’s success. That’s why it is essential to identify and maintain control of activities that are critical to competitive differentiation, business growth, customer experience, or creating superior product offerings. For healthcare companies, research, development, and—especially for pharmaceutical companies—manufacturing have historically been considered core competencies, while storage and distribution of products have not.

Less thoughtful leaders can fall victim to a potential peril of outsourcing—referred to as “thinning the core.” This occurs when a company, in an effort to meet aggressive cost-cutting objectives, cuts too deep or opts for a strictly transactional relationship, thereby eroding its ability to effectively control the outsourcing arrangement. Companies must be careful to retain valuable boundary-spanning individuals who can facilitate inter-organizational communication and cooperation. Some companies have suffered disastrous consequences when staff remaining within the organization have little personal experience with key operations processes being managed by a partner. This is a key reason it’s important to note that purposeful outsourcing and the establishment of long-term partnerships is itself a core competency. Especially in the healthcare industry, identifying, selecting, developing, and working in concert with key partners is a critical management function.

Although risks still exist, the concept of outsourcing has become mainstream; many companies don’t view using a manufacturing or logistics service provider as moving something “out” of their own company and they are well aware of the need to stay on top of what is going on within their partner’s walls. These service providers are simply an extension of the supply chain. Pharmaceutical companies are increasingly making use of contract manufacturing partners and outsourcing manufacturing is common for medical device companies.

Companies outsource supply chain activities to gain access to other companies’ scale, scope, expertise, or resources. For healthcare companies, logistics is a logical candidate for outsourcing; the infrastructure requirements and specialized expertise necessary to meet the demands of an ever-changing and increasingly complex industry don’t just require a major investment, they demand constant surveillance to stay on top of new regulations and rapidly shifting market channels. In addition, while healthcare executives are well aware of the demands for supply chain flexibility and responsiveness, few are likely to argue that their resources are best leveraged in developing storage and distribution capabilities.
Outsourcing can pose significant risks, but these risks can be minimized with careful attention to the process architecture, with an eye toward and end-to-end supply chain that includes processes and information systems that create transparency and enable proactive decision making—all in accordance with GxP requirements.

Ideal collaboration partners are willing to serve as an extension of their client’s internal capabilities, are strong in industry-specific requirements, familiar with industry regulations, equipped to handle specialized storage and transportation requirements, focused on product integrity and security, and willing to invest in a mutually-beneficial, long-term relationship.
Use visible and actionable metrics

Most executives would agree with the adage “If you can’t measure it, you can’t manage it.” Yet many companies don’t have a supply chain performance measurement program that provides a clear picture of overall performance, pinpoints the root of performance problems, and helps identify improvement opportunities.

Supply chain metrics can act as forward-looking indicators, providing insight into whether supply chain performance is improving, worsening, or likely to worsen in the future. Effective metrics programs can help correct problems before they turn into crises and include specific practices:

- Integrate quantitative targets into plans and budgets.
- Set meaningful targets at the individual and departmental levels, linking them to overall corporate objectives.
- Ensure that well-defined mechanisms and processes are in place to track progress.
- Be able to identify performance exceptions by understanding the level of granularity needed to detect that a process is out of control.

Supply chain metrics must be consistent with the company’s key business goals. This is essential for seeing how well the supply chain is supporting the business strategy and for taking the actions needed to improve performance. Measuring a few metrics in isolation is a common—and often counterproductive—way for companies to use performance-related data. A better approach is to start with strategic goals and work backward to identify the supply chain performance metrics that support them.
The goal of performance management is not to promote excellence in every dimension but to drive behaviors that best support the business strategy. Yet even when the basis of competition—innovation, customer experience, quality, or cost—is well understood, some companies have a hard time determining where performance excellence is critical and where it’s merely “nice to have.” A balanced set of supply chain performance metrics is critical to understanding these tradeoffs. It includes internally and externally focused, financial and nonfinancial, and functional and cross-functional metrics, as well as metrics that encourage continuous improvement.

Effective performance monitoring requires selecting a cycle for tracking actual performance on the metrics against targeted performance.

- **Make metrics visible.**
  If metrics and performance data are highly visible throughout an organization, then team members can see goals and know whether they are making progress, and managers can track their progress toward their goals. This immediate feedback can help them spot performance shortfalls and take corrective action quickly.

- **Ensure clean data.**
  Identify all the types and sources of data required to monitor the results of an initiative that has been implemented, and make the data accessible. Many companies have large volumes of data buried within numerous disparate systems and need applications and infrastructure that can pull data from different sources and enable timely decision making. To simplify both data gathering and reporting, design the data capture and reporting infrastructure using standard data and metric definitions. In order to be effective, the underlying database must be accurate and up to date.

- **Manage performance proactively.**
  A metrics dashboard is dynamic and provides customized views that can track specific metrics over time. It can also be a forcing mechanism to prompt a company to automate processes to record performance data and alert managers about problems. A dashboard can also serve as an early warning system if the metrics chosen provide a predictive view of performance trends.
Get a regular checkup

Just as you should not wait until something is wrong to see a doctor, you should regularly examine the health of your supply chain and confirm that all is well. For some companies, an annual health check is embedded in their operating strategy or contract with an outsourcing partner. For others, checkups should be performed when a change in market conditions or business strategy are likely to impact the supply chain’s ability to support the business. Any of the following events should trigger a checkup of supply chain health:

**Your business is expanding or entering new markets.**

A supply chain strategy that was humming at earlier sales levels may be constrained as the business expands. Don’t wait until capacity is tight to evaluate options for expansion. Also, be sure a planned expansion into a new market is well-planned from the perspective of your supply chain, which will encounter new challenges if required to cross a border.

**Your customer base or product mix is changing.**

An expansion or contraction in the number of customers may require a supply chain adjustment, especially in the areas of manufacturing and logistics. Similarly, the addition or consolidation of products and/or product configurations may strain supply chain capabilities or result in excess capacity, another reason why it’s critical to have supply chain and business strategies tightly linked. Advance warning of changes to the customer base or product mix allows time to adjust the supply chain footprint accordingly.

**Your channel strategy is shifting.**

The healthcare industry is evolving constantly and a channel strategy that makes sense today may not work for your business going forward. If commitments to customers, product configurations, or routes to market are changing, the supply chain must adapt.

**Looming patent expiration is an early warning of pricing pressure.**

Looming patent expiration is a sure sign that increased market competition will lead to substantially lower prices for the original brand-name product. It’s time to look for lower-cost means of production packaging and distribution.

**You are missing your numbers.**

In an industry under intense competitive pressure, it’s no surprise that shareholders are constantly raising the performance bar and want to see clear progress toward cost, service, and profitability targets. If the numbers reflect opportunities to improve operations, it’s time to take a look at the supply chain.

**Contracts with supply chain partners have less than two years left in their negotiated term.**

Deep and long-term collaboration is critical to success in the healthcare industry, where developing key supply chain partners is a critical management function. Contracts should reflect a multi-year commitment to advancing supply chain strategy—by both you and your partner. An organization that serves as an extension to your own supply chain is managed very differently than a typical transactional relationship. Your checkup may reveal opportunities for gain sharing and serve as a catalyst for extending the relationship even if the contract is not at its end.

Regardless of how you’re doing, it’s important to take a close look at your supply chain at least once a year to make sure that your operating model and footprint are optimized for your business strategy.
Conclusion

As healthcare products increase in value and complexity and their journeys to address the needs of the planet’s inhabitants lengthen, it is clear that their supply chains deserve ever more attention. As strategic assets, they are the key to maximizing efficiency, minimizing cost, and ensuring quality and availability of product.

Moreover, efficient supply chain management can create competitive advantages. Indeed, a competent third-party logistics partner, with expertise earned through a longstanding commitment to the needs of life-sciences companies, should be able to offer insights to healthcare companies and effectively become a valued partner—constantly seeking to improve the supply chain, and not simply being the provider of a necessary service.

Clearly, the future of any healthcare business rests partly on its ability to create a supply chain that anticipates customer needs and stays ahead of them. Consequently, the choice of a logistics partner is one of the most important that a business owner will make.

The choice of a logistics partner is one of the most important that a business owner will make. The wise decision maker will remember that there are considerations beyond price. The world is getting more complicated, especially in healthcare. Healthcare companies have to be prepared for this. Smart companies pay attention to their supply chains, anticipate what’s coming, and invest and partner accordingly. There is huge value to having a trusted logistics partner—it means you can concentrate on growth through developing great products and ensures a high performing supply chain.

Endnotes

As UPS sees it

The healthcare supply chain is experiencing a “coming-of-age”. More than ever before, senior management understands logistics is not only a cost center, but also a potential competitive differentiator. It is not surprising that supply chain executives—as this paper’s author, Shoshanah Cohen, observes—are increasingly finding themselves to be members of the C-suite.

At UPS, we welcome this movement, and encourage companies to consider following it. Supply chain leadership at the C-level will create value and most importantly lead to improved patient outcomes.

Over many years, UPS developed extensive expertise in the healthcare and life science industries. Many of our key learnings stem from deep collaboration with our customers and executing supply chain optimization projects. We have also, for the last eight years, taken the pulse of the healthcare supply chain with our annual Pain in the Chain survey of healthcare executives.

Shoshanah’s assessment of “fit” activities as determinants of valuable business activities aligns with UPS’s approach. In fact, UPS offers support to our clients in each of the five areas she cites. That is just one reason that, each year, hundreds of companies turn to UPS to optimize and modernize their supply chains.

Our global integrated transportation solutions and network of more than 50 healthcare-dedicated, multi-client facilities, together with thousands of healthcare specialists around the globe, demonstrate UPS’s commitment to this vital industry, and the patients that rely on it.

The solutions we implement, from regulatory compliance and quality control, to pan-regional distribution and reliable temperature-controlled logistics, provide efficient patient-centric supply chains for some of the world’s best-known healthcare companies.

Shoshanah Cohen’s paper makes a compelling case for logistics professionals to take a fresh look at their healthcare supply chains. And UPS offers the healthcare experience and expertise, that logistics professionals need to capitalize on the opportunities Shoshana Cohen illuminates.

Contact UPS today to discover how our healthcare team can help you identify improvements that generate value and create cost savings while freeing you to do what you do best: developing life improving products for patients.

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About the author

Shoshanah Cohen is a global thought leader in the field of supply chain strategy. She is the co-author of Strategic Supply Chain Management: The 5 Disciplines for Top Performance (McGraw-Hill) and one of the original developers of the Supply Chain Operations Reference-model® (SCOR®).

Cohen is the former director of the Stanford Global Supply Chain Management Forum and senior partner with PRTM Management Consultants, where she led the firm’s Global Supply Chain Innovation practice.

She currently serves as Director of Community Engaged Learning at Stanford University and teaches project-based courses at the Stanford School of Engineering.

Cohen holds a BS in Industrial Engineering from Stanford University, an MA in Technology Strategy from Boston University, and an MBA from Harvard Business School.