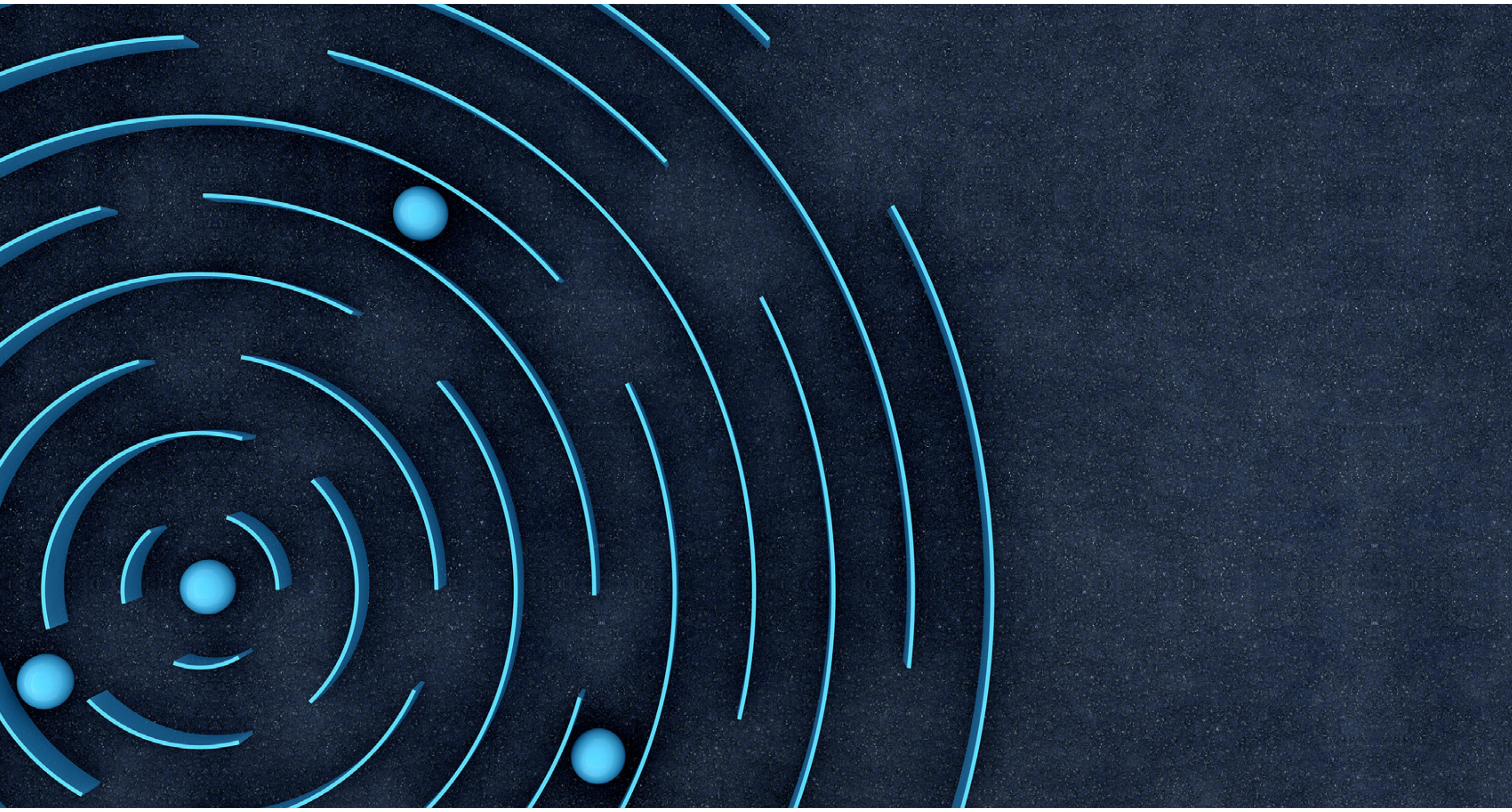
McKinsey & Company

Operations Practice

Emerging from disruption: The future of pharma operations strategy

To maintain profitable and resilient operations, CEOs and COOs of pharma companies may need to make bold changes to their operations strategy as the industry navigates new challenges.

by Hillary Dukart, Laurie Lanoue, Mariel Rezende, and Paul Rutten



October 2022

In the past, many pharmaceutical companies (pharmacos) deprioritized operations strategy in the face of competing business pressures. This is now changing. Factors such as the COVID-19 pandemic, inflation, geopolitics, new therapeutic modalities, and new ways of working make it vital for pharmacos to carefully reconsider their long-term choices in sourcing, manufacturing, and supply chain.

Now is exactly the right time for this renewed emphasis on operations strategy, as pharmacos emerge from two years of intense firefighting. Succeeding in pharma under these new and challenging conditions will require succeeding in operations.

The focus for operational leaders may need to shift from the prevailing emphasis on continuous improvement—including cost savings, quality assurance, and constant readiness to deliver—to longer-term external challenges. These include high inflation and an increase in complexity and risk, as well as the compounding effects these forces have on each other.

Pharma operations leaders now have an opportunity to deliver even greater value to their organizations by achieving this shift in focus, but they must act quickly to keep abreast of the challenges confronting the industry. The effort will require enormous mobilization and thoughtful prioritization. This task will fall to leadership; only the CEO and head of operations are in the right positions to make it happen.

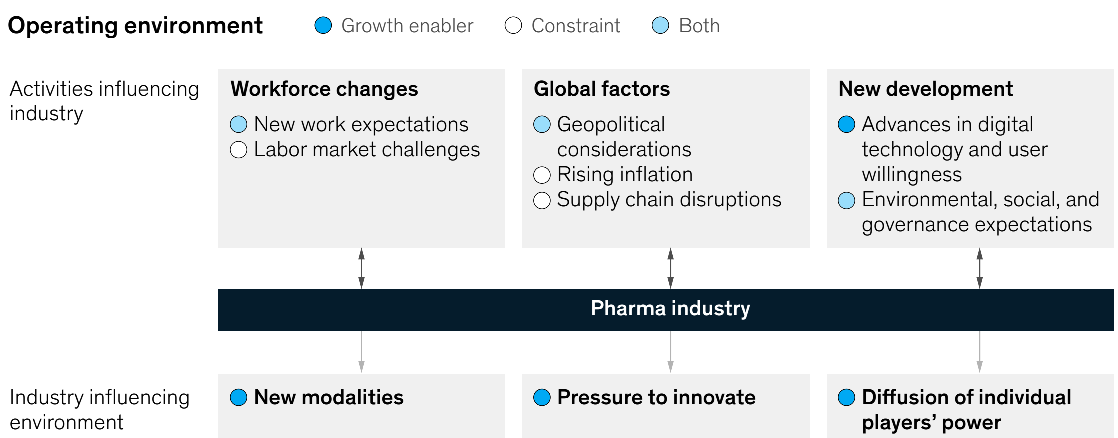
This article explores the challenges facing pharma leaders and the steps they can take to develop a more strategic, long-term, and integrated approach to operations strategy. It presents questions leaders can ask as they design the solutions needed to make sure operations can protect enterprise continuity while still delivering to patients.

A perfect storm of external challenges

The pharma industry is facing a multitude of challenging trends (Exhibit 1). Global demand is growing rapidly, and the unprecedented need for COVID-19 vaccines and therapeutics has put additional pressure on the industry. The industry's ability to find innovative solutions to deliver COVID-19 vaccines while still meeting overall demand is a remarkable achievement, but rising global demand is still a significant challenge for the industry in the long term.

Exhibit 1

The pharma industry is facing a complex network of forces.



The pharma industry is facing a multitude of industry-specific and global trends. But a few major trends point to an industry tailwind; one of them is the advancement of digital and analytics tools.

The product landscape also is changing swiftly. New modalities, such as cell and gene therapy and mRNA vaccine technology, have increased from 11 to 21 percent of the drug development pipeline—the fastest growth ever seen in the sector. This change is likely to bring more fragmentation of technology, new supply chains, and unique product life cycles.

In addition to these industry-specific trends, pharma has also been affected by broader global trends, such as supply chain pressures. While the pharma industry is considered somewhat protected by its high inventory levels and long-standing dual sourcing, over a given ten-year period, the likelihood of supply chain disruptions still represents a potential loss of 25 percent of EBITA. Inflation has risen in recent months to levels not seen for decades, leading to increasing costs for labor, raw materials, and transportation. This is over and above the persistent price pressures pharma is already facing, particularly in generics. Since pharma customers are not expected to fully absorb these cost increases, profit margins are under pressure.

Meanwhile, increased state interventions and protectionist trade policies are creating new pressures on manufacturing networks and could drive increased regionalization. This would be a capital-intensive exercise: to regionalize just 10 percent of current vaccine trade in one particular geographical region, governments would need to invest an estimated $100 million.

The pharma industry is also facing talent shortages linked to wider labor market trends, including the 20 percent increase in demand for STEM-related roles across the life sciences industry in the United States. The current pool of pharma digital talent is at least 14 percent lower than demand, and many companies are finding it challenging to recruit technical talent. Compounding this challenge is the rise of remote working, which has increased employee expectations for flexibility. In response, nearly all pharmacos are experimenting with hybrid working models.

A few major trends point to an industry tailwind; one of them is the advancement of digital and analytics tools. Digital tools, robots, and sensors are becoming cheaper and easier to access, and they can be used to capture all manner of raw data. In addition, edge computing and cloud analytics are providing real-time optimization and transparency. Pharmacos are working to leverage the power of data to become more agile and resilient. However, to date, no pharmaco has emerged as a true global leader in this field.

Each of these global trends represents significant challenges in and of itself, and the trends may be compounded and strengthened through their interactions. This compounding effect can add to the complexity of evaluating an effective strategic response.

Major implications for pharma

These global trends have six major implications for pharmacos: rising operational complexity, increasing risk, shifting capability requirements, higher capital expenditure requirements, variable-cost increases, and opportunities for savings (Exhibit 2).

Operations leaders may need to become comfortable navigating a more complex ecosystem as they respond to increased operational complexity. Risks may increase due to rising environmental, social, and governance (ESG) expectations and skills gaps, while new modalities and digital acceleration will also likely lead to a shift in capability requirements. This could necessitate reskilling and upskilling of staff, as well as a renewed focus on recruiting from outside of the pharma industry.

From a cost perspective, the pharma industry may see significantly increased capital expenditure requirements related to the construction of new sites and new digital infrastructure. Increases are also likely in variable costs in areas such as raw materials, transportation, and employee attrition, reskilling, and salaries.

Although these implications are challenging, they may represent possible opportunities for savings in several areas. For example, ESG commitments on waste reduction could reduce costs, as could successful digital implementation. However, the challenge lies in monetizing these cost savings, given that the industry has long created value largely through revenue expansion rather than through cost savings.

Exhibit 2

Current pharmaceutical trends may add more cost, complexity, and risk, with these forces compounding one another.

Pharmaceutical industry trends and implications

Degree of impact Low Medium High

	Implications					
Trends	Complexity	Increased risk	Capability	Capital expenditure	Variable-cost increase	Savings opportunity
Advances in digital technology and user willingness	Low		Low			High
Diffusion of individual players' power	Medium	Low	Low			
Environmental, social, and governance expectations	Medium		Low	Low		
Geopolitical considerations	Low	Medium	Medium	Medium		
Labor market challenges		Medium	Medium		High	
New modalities	Low	Low	Low	Medium		
New work expectations	Medium					
Pressure to innovate	Medium	Low		Low		
Rising inflation		Low			High	
Supply chain disruptions	Medium	High				

Rising to the challenge: Actions to deliver value

To respond to these challenges, pharmaco leaders may now need to emphasize the importance of their operations strategy. They should consider taking a longer-term view and scaling activity across four key themes: network strategy and resilience, digital, operating model, and talent.

Expand focus on longer-term, transformative solutions

Operations leaders can address these challenges through several short-term and long-term responses. For example, problems associated with a more unpredictable supply chain could be addressed with a short-term approach of increasing inventory or a long-term initiative to establish an end-to-end supply chain digital nerve center.

Short-term levers can be an important part of the total response but are insufficient to fully mitigate the challenges facing the industry. To respond effectively, companies may need to accelerate new ways of working and embrace long-term thinking. This will require concrete action with a focus on making sure that strategies are put in place to weather the long-term headwinds the industry is facing.

Accelerate and scale responses across four strategic domains

To identify the actions that pharmacos could take, it may help to group these in terms of four strategic domains: network and resilience, digital strategy, operating model and ecosystem, and talent strategy (Exhibit 3). While these themes are likely to be familiar to any business leader, they now require a substantial shift in mindset. Acting on them also calls for a large investment of resources.

1. *Plan for and manage future resilience and reliability needs.* Recent supply chain disruptions have pushed supply chain resilience up corporate agendas. Companies have been forced into reactive modes that employ short-term levers like building inventory. However, companies could better position themselves by solving multiple variables and building resilience into their operations strategy through longer-term actions like network design and dual sourcing.

2. *Scale end-to-end adoption of digital and automation.* Digital has proven itself highly valuable to pharma operations. However, many companies struggle to move from targeted,

Exhibit 3

Meeting pharmaceutical-industry challenges will mean recalibrating four strategic responses.

Responses, by strategic domain

	From →	To
Network and resilience	Solving for cost; reactive and firefighting	Solving for multiple variables; resilient, proactive, agile, and fast to market
Digital	Targeted, single use cases	Fully scaled and ready for ecosystem leadership
Operating model and ecosystem	Traditional hub configuration centered on originators	End-to-end ecosystem of partners
Talent	HR-driven recruiting and training effort	Strategic workforce planning; reskilling and automation

single use cases to a fully scaled suite of solutions. And while the adoption of full-scale digital solutions can require heavy investment—around $50 million to $100 million per year for two to three years—the rewards can include significant cost savings, improved quality, and increased resilience, as well as greater employee effectiveness. Companies that truly scale and implement digital can better protect themselves from the pressures of the forces increasing costs for the industry. More and more companies are moving toward network-wide and end-to-end digitization; to date, the World Economic Forum has recognized 103 as "lighthouses," based on their advanced application of digital technologies. Johnson & Johnson, for example, has successfully launched multiple Industry 4.0 lighthouses, including some focused on end-to-end patient connectivity and order fulfillment.

3. *Expand adoption of end-to-end partner ecosystems.* Companies could also consider changing their operating model from a traditional hub configuration around originators to an end-to-end ecosystem of true strategic partners. More than 50 percent of companies already expect to intensify their collaboration models with other industry players through, for example, service agreements, joint ventures, or ecosystems. Some are already in motion; examples include Pfizer and BioNTech, which have already established a strategic partnership in mRNA technology discovery, and AstraZeneca and Huma, which are collaborating to scale innovation for digital health. These partnerships are indicative of increasing collaborations throughout the industry across functions.

4. *Embed talent strategy in operations strategy.* Companies may also benefit from embedding strategic workforce planning into operations strategy, with a focus on reskilling, upskilling, and automation. The shortage of talent may mean shifting managers' perception of strategic workforce planning—from "enabler" to a core element of operations strategy. This could entail moving away from the traditional approach of HR-driven recruiting and training and toward planning the workforce more strategically with long-term goals in mind.

   Automation, centralization, and new job requirements may affect nearly 90 percent of today's workforce, and to deal with this challenge, companies could adopt effective long-term strategies. Retaining talent is challenging in the present environment, with the share of workers planning to leave their jobs in the next three to six months standing at 40 percent since 2021.[1] Strategies for talent retention should therefore be broad and focus on more than just salary.

   A viable long-term solution to talent shortages may need to involve more than increasing wages to attract people. To solve structural talent gaps, companies could ensure long-term reskilling and upskilling of the existing workforce. For example, Roche runs an operations rotational program to attract top talent with bachelor's and master's degrees, and early in the COVID-19 pandemic, Novartis launched a "choice with responsibility" policy to improve overall employee experience.

Successfully developing a robust operations strategy is complex and requires dedicated resources with the ability to focus on the medium to long term. This means the C-suite will need to prioritize efforts and provide adequate resourcing. Only the CEO and head of operations can set the appropriate direction for their organization, steer their company's effort, gather the right skills and teams, and manage complex interdependencies and resource-intensive interventions.

Are companies doing enough?

As COOs look to emerge from the disruption of the past two years, reflecting on several questions could help them evaluate their organizations' level of

[1] Aaron De Smet, Bonnie Dowling, Bryan Hancock, and Bill Schaninger, "The Great Attrition is making hiring harder. Are you searching the right talent pools?" *McKinsey Quarterly*, July 13, 2022.

preparedness to respond to the trends affecting the industry. The process could provide foundational answers to inform a renewed operations strategy.

— Have you projected the impact of today's current trends on your business?

— Do you have a focused, skilled, and scaled operations strategy team that identifies, prioritizes, and deploys initiatives across different horizons?

— Are your resilience measures proactive and dynamic, and are they being built on talent and digital capabilities to achieve greater agility and reliability?

— Have you experienced greater access to innovation and flexibility as a result of expanding your services and strategic partnerships?

— Has your digital strategy created benefits across your network and transformed your operation from digitally enabled to digitally driven?

— Have you achieved ESG improvements, and do you have a broad, long-term road map for ESG commitments (beyond net zero)?

— Has your operating model been agile enough to adapt to rapidly changing operations requirements, such as new modalities and potential disruptions?

— Have you successfully transformed your operations workforce and comprehensively improved the employee experience?

— Do you have an established governance process that incorporates past lessons into future strategy?

Although the pharma industry has performed a remarkable feat in delivering COVID-19 vaccines while also meeting growing demand, current trends create a challenging environment for pharmaceutical companies. Companies face greater costs, complexity, and risk.

Now is the time to rethink operational strategy to respond to these trends and remain competitive. Such change may have associated challenges and will require bold and innovative leadership. But if companies successfully implement new strategies, they could position themselves to take advantage of the industry's remarkable growth.

Hillary Dukart is an associate partner in McKinsey's Denver office, **Laurie Lanoue** is a partner in the Montreal office, **Mariel Rezende** is a consultant in the Miami office, and **Paul Rutten** is a partner in the Amsterdam office.

The authors wish to thank Joe Hughes and Jean-Baptiste Pelletier for their contributions to this article.

Designed by McKinsey Global Publishing