LOGILITY

FORMULATING SUPPLY CHAIN PLANNING SUCCESS FOR LIFE SCIENCES

Life sciences companies face a unique set of supply chain challenges including extreme service level requirements, multi-tier distribution networks, strict regulatory requirements, a challenging inventory mix of high- and low-volume items and increasing demand uncertainty due to a rapidly changing portfolio of new products sold through new channels and new markets.

This eBook highlights five capabilities every life science supply chain team must address to formulate optimized supply chain planning:

1. Embrace and manage a digital transformation
2. Use Big Data effectively and efficiently
3. Consistently reduce demand uncertainty
4. Hold the right type and amount of inventory at the right locations
5. Align business planning across the extended supply chain

BENEFITS OF DIGITAL TRANSFORMATION

The digitization of a supply chain involves creating a detailed data and process model that mirrors the intricacies of an actual end-to-end supply chain network, often referred to as a 'digital twin'. Done right, a digital twin will have enough detail to model the information, money and product flow from acquisition of components, through production, distribution and fulfillment to the customer.

The benefits of digital transformation for life sciences companies are plentiful and include:

Process Automation: Use information to automate routine process steps and free up resources to work on more value-added activities.

Continuous Planning & Optimal Response: Unleash the full capabilities of your supply chain solutions to develop game-changing competitive breakthroughs in customer service and value creation.

Advanced Analytics: Enjoy in-depth, end-to-end analysis using multiple "what-if" scenarios and have information you need to head off potential risks and fully embrace opportunities.

How might a digital supply chain transformation change your daily life?

- You have real-time, accurate information, eliminating the need for data manipulation.
- Collaboration on actual supply chain activities is online and in real time.
- "What-if" scenarios and simulations are automatic, intelligent and include sufficient data to make informed decisions quicker.
- Your team moves from calendar driven to continuous optimal responses.

TAKE ADVANTAGE OF BIG DATA

The amount of data created by today's systems is growing at an exponential rate. According to Michael Townsend, research director for Life Sciences Commercial Strategies at IDC Health Insights, "Life science companies have invested heavily in digital transformation and are poised to take the next step in designing intelligent enterprises. These investments will pay off in the future in a more productive knowledge workforce, efficient operations and a foothold in assuring successful product strategies and execution in the future."[1] To gain insight from supply chain data it must first be consistent and accurate. To obtain value from Big Data you must first determine:

1. What supply chain data do you need (internal/external; structured/unstructured) and what are you missing?
2. Who is responsible for supply chain data consistency and accuracy?
3. Where is supply chain transactional and master data stored and how easy is it to retrieve and use it?

A few ways to take advantage of Big Data include:

- Enable advanced supply chain analytics including predictive, prescriptive, and cognitive analytics
- Build end-to-end supply chain visibility through a 'digital twin'
- Enable multi-functional and multi-organization collaboration based on rich, up-to-date supply chain information
- Empower supply chain process and decision automation to allow more focus on value-added activity

*1 **Source:** The Future of Intelligence for Life Sciences: Transcending Boundaries, by Nimita Limaye, Research Vice President; Michael Townsend, Research Director, Life Sciences Commercial Strategies; Chandana Gopal; June 2021*

THE ART AND SCIENCE OF REDUCING DEMAND UNCERTAINTY

A forecast is not simply the projection of future business; it is a request for product and resources that ultimately affects almost every decision the company makes. That means decisions by Sales, Finance, Manufacturing, Logistics and Marketing are all enhanced or diminished by the accuracy of a company's forecasts.

Optimizing demand planning capabilities is critical to a life science company's ability to meet the complexities of today's global supply chains. Creating demand plans by product, business and geography over several forecasting horizons and in multiple volumetric and financial units of measure, creates a highly complex environment that dictates the need for optimized demand planning.

Metrics Driven by Demand Planning	Best-in-class	All others
Forecast Accuracy at Product Family Level	81.5%	63.0%
Forecast Accuracy at Product SKU Level	73.6%	54.7%
Average Customer Service Level	93.7%	85.3%
Finished Goods (FG) Turns	24.4 Turns	14.3 Turns

Source: *Aberdeen - Demand Planning: Why the Best-in-class Excel and Why You Need to Know.*

Five steps demand planners can take to improve forecast accuracy:

- Benchmark and learn from your peers: There is an abundance of material available on how to improve forecast accuracy
- Speak in business terms: Show the relationship between forecast accuracy and revenue, profitability, and shareholder value to win support for improvements
- Continuous education: Creating good forecasts requires skills in statistics, knowledge of product and customers, and excellent communication skills
- Dive into analytics: Planners need to use analytics to uncover the root causes for forecast error
- Variety is king: Use a mix of forecasting techniques across the product life cycle to fine-tune demand projections

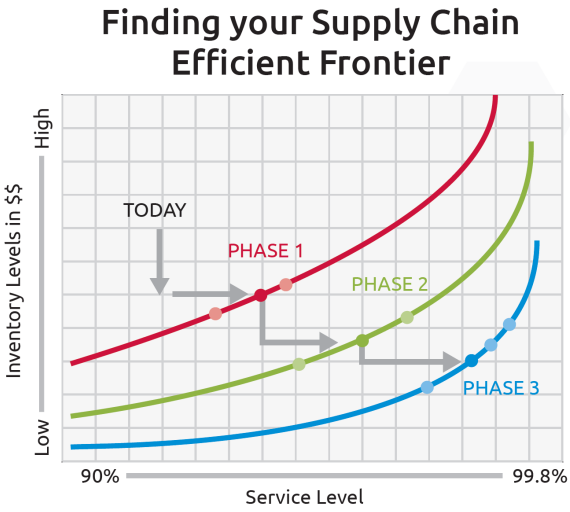
HOW MUCH INVENTORY DO YOU REALLY NEED?

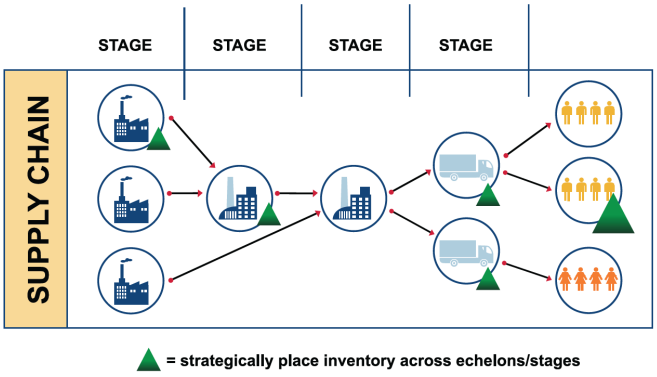
Even though pharmaceutical, biotech and medical device companies are innovation machines they are not immune from the need to manage costs from excess inventory. The goal should be to right-size inventory to optimize new product introductions and time-to-market plans, as well as manage onsite stock at hospitals, pharmacies and medical offices.

Multi-echelon inventory optimization (MEIO) models the end-to-end supply chain and optimizes safety stock buffers across all tiers to bridge dangerous inventory gaps while reducing costs dramatically, speeding time-to-market, and avoiding stock-outs at customer sites. MEIO allows you to make intelligent tradeoffs between inventory and services levels and identify ways to shift your company's 'inventory efficient frontier' curve.

Additional MEIO benefits:

- Provide end-to-end supply chain visibility, from chemical/biological raw materials through operations, packaging and distribution
- Position key raw materials for cost-effective manufacturing
- Optimize global sourcing and manufacturing operations to minimize total cost and lead times, and meet tracking requirements
- Meet changing demand flexibly, without sacrificing service





> Logility combines supply chain expertise with technology innovation and really fits the unique demands of our specialized business.
>
> **Jeff Killion**
> Director of Global Planning, MilliporeSigma

SUCCESS STORY: MILLIPORESIGMA DISCOVERS THE CURE FOR SUCCESSFUL REPLENISHMENT PLANNING

MilliporeSigma is a leading life science and technology company that manufactures biochemical and organic chemical products and kits that are used in scientific research, biotechnology, pharmaceutical development and disease diagnosis. Its customers include life science companies, university and government institutions, hospitals and commercial labs. In the industrial area, MilliporeSigma markets stains, dyes, fragrances and flavors.

Challenge

With a large product portfolio, Millipore Sigma needed better global visibility in order to improve customer service levels, increase forecast accuracy and optimize inventory through a centrally controlled replenishment plan.

Solution

MilliporeSigma implemented the Logility Digital Supply Chain Platform and optimized inventory via alternate sourcing and utilization of excess stock, increased fill rate and improved customer service levels.

The Bottom Line

- Improved forecast accuracy for A, B and C items as well as customer bulk items
- Leveraged time-phased inventory policies to achieve desired service levels
- Reduced inventory via alternate sourcing and excess stock utilization
- Improved customer service levels
- Decreased cash-to-cash cycles
- Optimized the entire supply chain

ALIGNING BUSINESS PLANNING ACROSS THE EXTENDED SUPPLY CHAIN

Supply chain practitioners have used sales & operations planning (S&OP) to accelerate, direct and optimize business decisions for the better part of 30 years. Advanced S&OP, also called integrated business planning (IBP), goes a step further and unites volumetric and financial information into one flexible planning and decision support process for strategic and tactical planning horizons. It combines data from sales, marketing, production, procurement, transportation and finance to create a powerful decision center for all stakeholders.

By removing organizational and technology barriers, and synchronizing plans, an S&OP platform ensures your business plans are rooted in feasible supply chain network capabilities, with resources and investments deployed where they are most effective in achieving business goals.

The Value of Aligned Business Planning

Cash Conversion Cycle
IBP Users - 55 days
non-users - 70 days
% Less - 21%

Supply Performance % of plan
IBP Users - 74%
non-users - 55%
% Greater - 34%

Forecast Accuracy SKU level
IBP Users - 70%
non-users - 56%
% Greater - 23.8%

Customer Service Level
IBP Users - 91%
non-users - 87%
% Greater - 4.3%

Source: *Aberdeen - Integrated Business Planning: Capability Advantages for IBP users verses non IBP users.*

Best-in-Class S&OP companies ...

- Use a consensus forecast to develop all business plans
- Have a comprehensive technology roadmap
- Rigorously and honestly track their performance
- Include sales, marketing, finance and business leadership in S&OP process
- Apply an end-to-end MEIO strategy to align strategic and tactical goals across the supply chain
- Include key customer information to provide early warning of market shifts
- Analyze tradeoffs between service and investments using multi-scenario modeling
- Use both unconstrained and constrained supply scenarios to determine feasible and upside potential

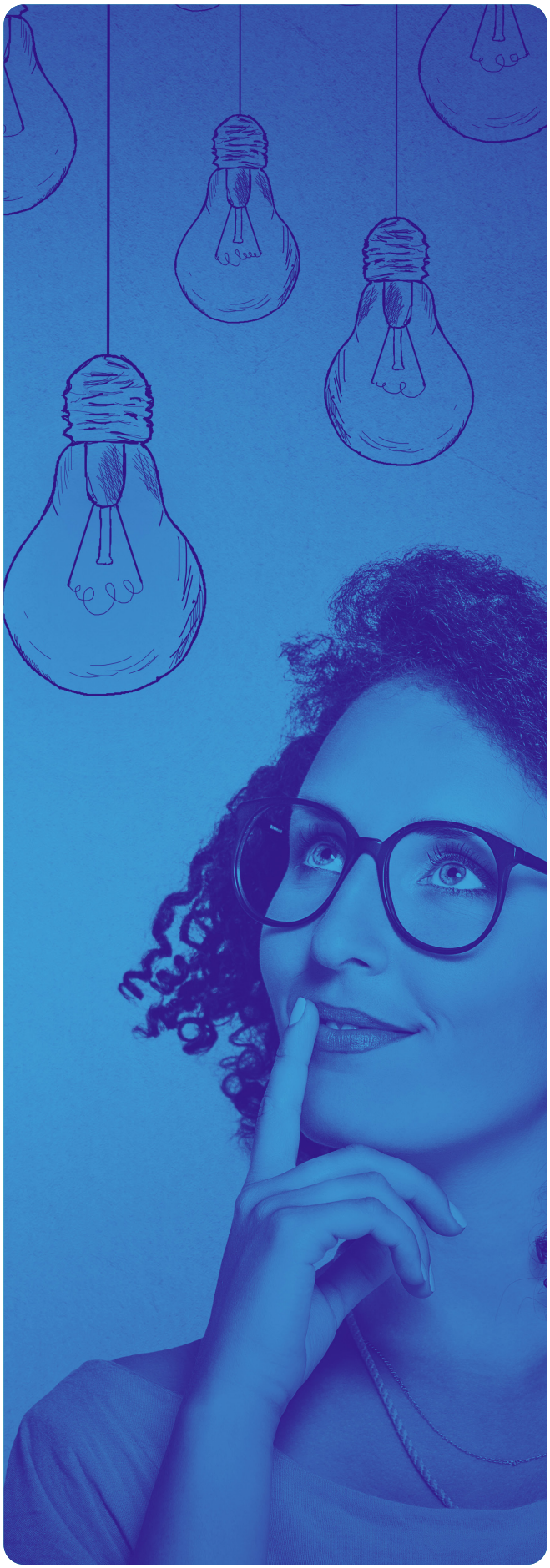
CONCLUSION

Every industry faces unique challenges. For manufacturers of pharmaceuticals, medical devices and other healthcare products, the challenges are particularly tough. Competition is fast and fierce, pushing the creation of new products and enhancements even as R&D costs rise while regulatory scrutiny is deepening. Traceability, serialization, product tracking and security all complicate compliance for your diverse product portfolio.

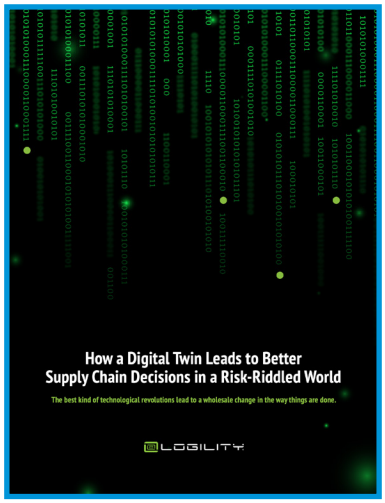
With complex factors affecting profitability, life sciences companies need to eliminate excess cost and inefficiencies from global supply chains while maintaining confidence in supply.

Logility provides the visibility required to manage demand for any volume of individual products, improve operational efficiencies, reduce inventory costs, and help ensure product availability.

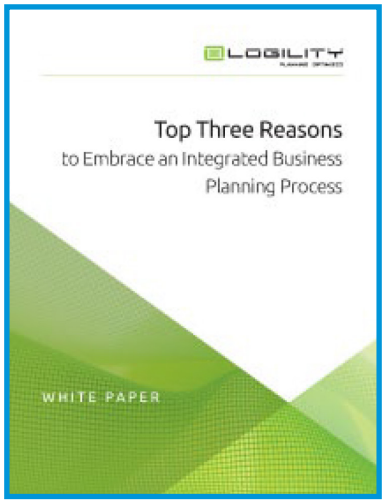
- Forecast thousands of individual SKUs and customer bulk items accurately
- Reduce costs and risk through multi-echelon inventory optimization
- Manage unlimited item/package/routing combinations
- Optimize multi-plant production, scheduling and labor resources
- Accelerate cash-to-cash cycles
- Improve service levels while reducing costs
- Streamline and align sales and operations planning (S&OP) and strategic planning processes



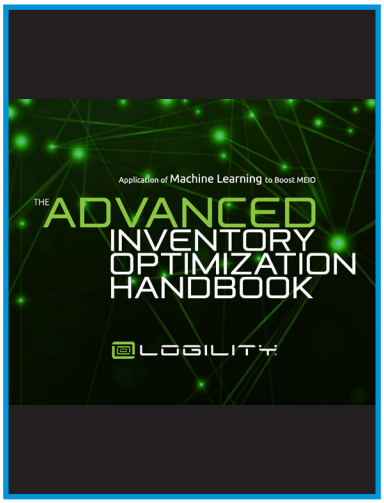
ADDITIONAL RESOURCES



How a Digital Twin Leads to Better Supply Chain Decisions



Top Three Reasons to Embrace an Integrated Business Planning Process



The Advanced Inventory Optimization Handbook

About Logility

Accelerating the sustainable digital supply chain, Logility helps companies seize new opportunities, sense and respond to changing market dynamics and more profitably manage their complex global businesses.

The Logility® Digital Supply Chain Platform leverages an innovative blend of artificial intelligence [AI] and advanced analytics to automate planning, accelerate cycle times, increase precision, improve operating performance, break down business silos and deliver greater visibility. Logility is a wholly owned subsidiary of American Software, Inc. [NASDAQ: AMSWA].

To learn how Logility can help you make smarter decisions faster, visit www.logility.com.

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