



Solving the Supply Chain Planning Puzzle:

Six Capabilities Every Manufacturer Needs

Top Supply Chain Challenges for Manufacturing Companies

Manufacturers today face a long list of tough supply chain challenges. Supply chain teams that rely on a jumble of spreadsheets, enterprise resource planning (ERP) systems, and antiquated supply chain applications risk failure. Keeping data in many different places and systems limits visibility and creates misaligned plans.

There is good news. A convergence of advanced solutions makes this a great time to take your supply chain planning and optimization capabilities to the next level and solve the never-ending supply chain puzzle. Keep reading to learn six supply chain planning practices to have on your side.

How resilient is your organization?

An IDC survey on the impact of COVID-19 shows the percentage of organizations reporting ‘very’ or ‘extremely’ resilient and what positive quality contributes to that resilience.



Source: COVID-19 IMPACT ON IT SPENDING Survey (Survey conducted during 7th July to 20th July period), IDC, July, 2020. N= 844 WW technology decision makers



Multi-variate Demand Segmentation

Multi-variate demand segmentation is a process of dividing a SKU portfolio up into segments that have more similar or related demand characteristics. This process enables the use of similar demand planning approaches for SKUs with similar characteristics, and leads to increased demand planning accuracy and effectiveness.

A commonly used multi-variate segmentation is demand volume by demand variability. It works because the most effective demand planning approach for high volume, low demand variability products is usually different from the most effective approach for low volume, high demand variability products. A demand segmentation matrix is an effective way to view the characteristics of a multi-variate demand segmentation.

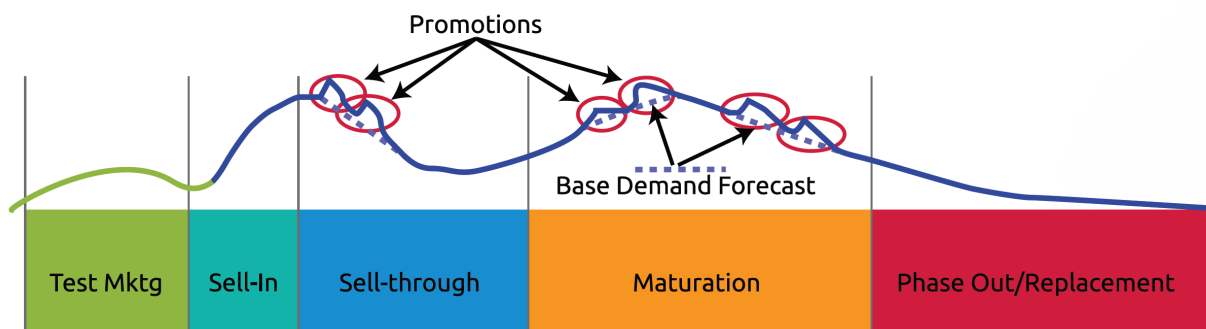
Low Volume High Volatility	High Volume High Volatility	Low Volume Low Volatility	High Volume Low Volatility
Hard to Predict Low Impact Terms Inventory Strategies	Hard to Predict High Impact Terms Collaborative Planning	Easy to Forecast Low Impact Terms Statistical Models	Easy to Forecast High Impact Terms Baseline Forecasts & Promotions



Most companies recognize the importance of a repeatable and accurate forecasting process. Accurate forecasts help minimize inventory, maximize production efficiency, streamline purchasing, optimize distribution and ensure confidence in company projections. However, developing accurate product forecasts at all stages of a product's life cycle can be very challenging.

A best practice is to assign a forecasting method based on a product's life cycle stage to ensure the best possible forecast accuracy. However, most demand planning teams don't have the bandwidth to evaluate each SKU/location level forecast for every forecasting period to determine which forecasting method is best. Fortunately, leading demand planning solutions can automate this selection by comparing forecast error by method and selecting the method that provides the best forecast.

Typical Product Life Cycle Progression



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Less than 5% of companies in any industry have a disciplined approach to rationalize product complexity or product profitability. Product rationalization is essential to drive agility.

Supply Chain Insights: 'Driving Supply Chain Agility', Jan 2019.

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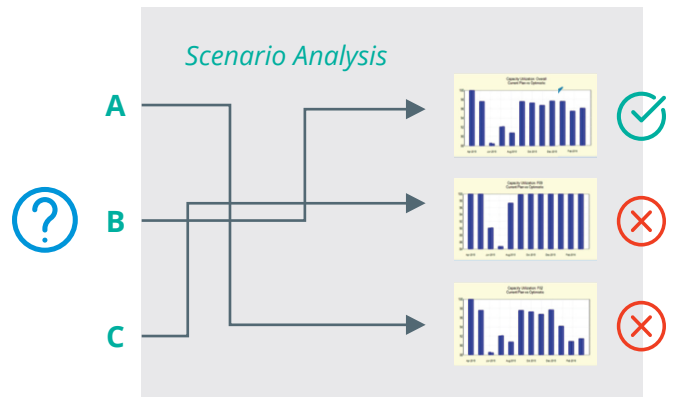
“What-if” Scenario Planning

The ultimate goal of supply planning is to minimize total supply costs while meeting demand requirements. The only way to accomplish this is through solving for the optimal plan while simultaneously considering all constraints, costs and capacities across the extended supply chain. Supply optimization planning enables you to profitably satisfy market demand through dynamically sourcing materials, optimizing production and manufacturing plans, reducing distribution costs and slashing lead times.

A manufacturer needs powerful yet flexible and easy-to-use optimization capabilities; the ability to evaluate multiple supply plan alternatives through numerical and graphical simulations; and the ability to perform multiple “what-if” scenarios that incorporate both volumetric and financial information to enable alternatives in the context of financial impact.

With “what-if” scenarios you can evaluate critical decisions and prepare contingency strategies to avoid risk and pre-empt your competition when market situations change.

“What-if” Scenario Planning



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Logility helped Berry Global develop a consistent integrated business planning process. Now we can focus on growing without having to reinvent the wheel every time we have a new acquisition, business challenge, or new customer request.

Mike Reibsam, Director, Integrated Supply Chain - Berry Global

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Success Story: **Berry Global, Inc. Packs More Value with an Integrated Planning Process**

Berry Global's products are integral to the success of many of the world's best-known brands. The Fortune 500 company produces over 91,000 packaging and materials SKUs manufactured across the globe and used by more than 19,000 customers for finished products in three major markets: engineered materials, consumer packaging, and health and hygiene products.

Challenge

With more than 40 acquisitions in 30 years and constantly changing customer requirements, Berry needed an integrated business planning process and platform to keep its supply chain running smoothly and stay ahead of its competition.

Solution

Logility provides a unified planning approach to help Berry generate a better demand signal, increase visibility, synchronize inventory and

optimize supply and production. The results? Berry gained global supply chain visibility, increased SKU-level forecast accuracy, reduced inventory levels and advanced the corporate Sales and Operations Planning (S&OP) process.

The Bottom Line

- » Achieved hard dollar benefits through operational changes and optimizing production
- » Created a proven, scalable planning process applicable to all plants, products and customers
- » Established a culture of collaboration and continuous improvement
- » Increased accuracy of promotions and event planning
- » Freed planners from routine tasks to focus on customer needs and innovation

Sales and Operations Planning (S&OP) or Integrated Business Planning (IBP)

Sales and operations planning can transform diverse information from sales, production, finance, marketing, transportation and procurement into one powerful central resource to synchronize and align your business. With a comprehensive S&OP solution in place, you can cut days or weeks from your planning process and complete multi-divisional analysis in a fraction of the time.

The S&OP process should focus on identifying misalignments and problems far enough into the future to provide time to make significant changes to eliminate or minimize the issue. Instead of determining detailed manufacturing schedules, S&OP should center on decisions such as whether to staff an additional shift, add new equipment, build new facilities, develop new partnerships, or when to launch new products or enter new markets.

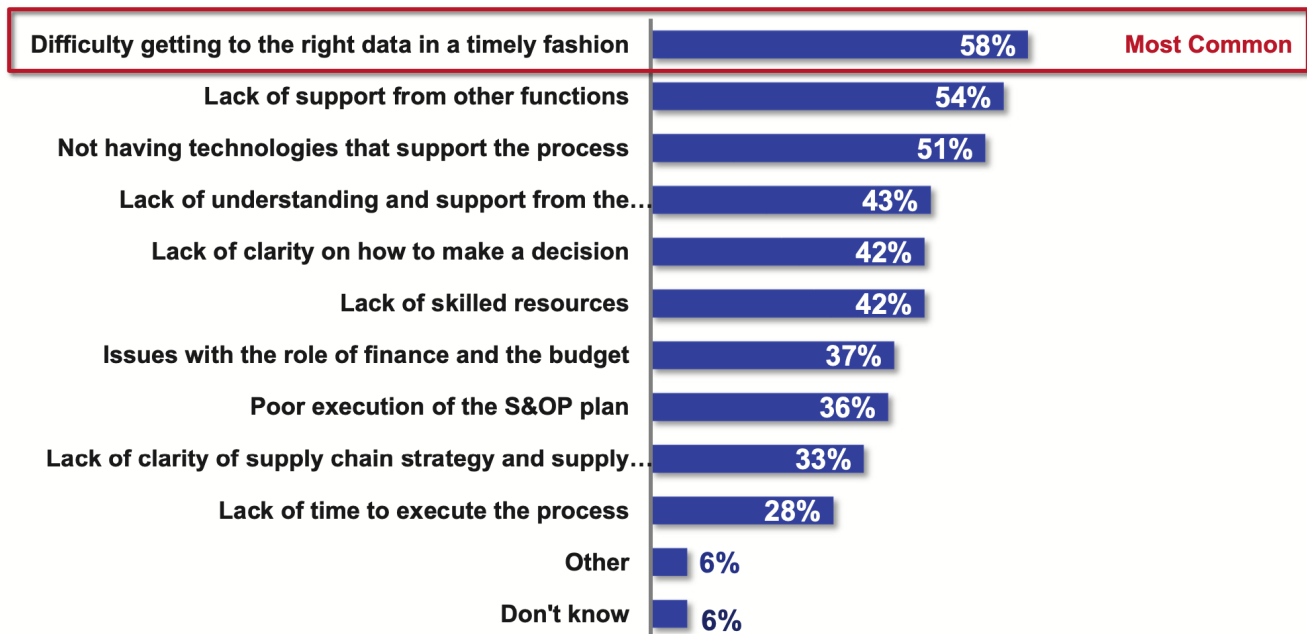
Typical Sales & Operations Planning Process



Source: Logility

Challenges with Initial S&OP Process Implementation

36% challenges on average



Source: Supply Chain Insights LLC, Sales & Operations Study (Mar-May, 2019)

Base: HAVE A S&OP PROCESS -- Total (n=107)

Q28. Thinking about when your [former] S&OP process was first implemented, what were the challenges that your company encountered with the implementation? Please select all that apply.



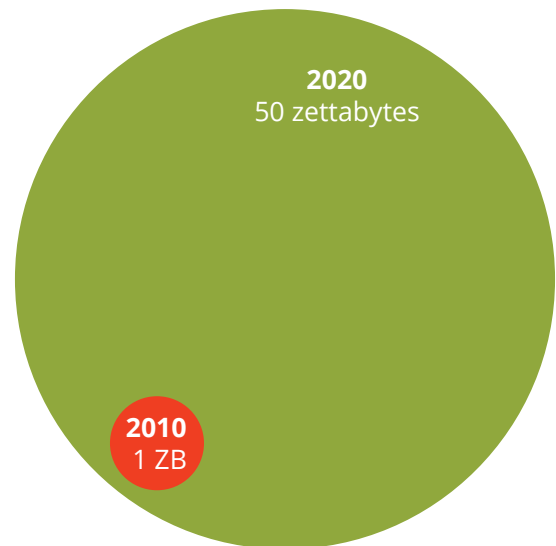
As global manufacturing continues to increase in speed and complexity, ERP systems and related enterprise business solutions often do not provide the breadth and depth of data capabilities needed to support advanced supply chain planning and optimization. The continued adoption of more mature business processes such as Integrated Business Planning, Multi-Echelon Inventory Optimization, Advanced Planning and Scheduling, and Supply Optimization—drives the need for high quality and consistent data.

The amount of data available to improve planning and response capabilities continues to grow exponentially. A supply chain data management solution can simplify adding and maintaining data from both internal and external sources.

A supply chain data management best practice is to use machine learning algorithms to scan incoming data for completeness and relevance to improve data quality and streamline data management. Machine learning algorithms can learn to recognize valid inputs for different data fields and alert the responsible party when data is encountered that is in question.

The Growth in Big Data

50x Growth in Data from 2010 to 2020



1 Zettabyte = 1 Trillion Gigabytes



Building robust supply chain analytics capabilities is more important than ever. It is becoming harder and harder for supply chain teams to meet management's demands to reduce costs while also meeting ever-increasing customer expectations.

To complicate matters, finding and retaining qualified supply chain talent continues to be an issue. Top supply chain talent tends to migrate to companies that have invested in modern solutions.

In its 2021 report '5 Essential Practices for Real-Time Analytics', Gartner recommends the following five goals to deliver successful real-time analytics in your organization:

1

Determine the "right time" for analytics by working with business people to understand the business conditions and requirements. Real time is not always the right time.

2

Improve the precision and effectiveness of real-time decisions by reengineering decisions to use the appropriate combination of reporting, alerting, machine learning (ML), event stream processing, optimization and other AI tools operating on real-time data.

3

Improve organization-wide situation awareness by sharing all relevant real-time data across organizational, geographic and system boundaries throughout the organization and its ecosystem.

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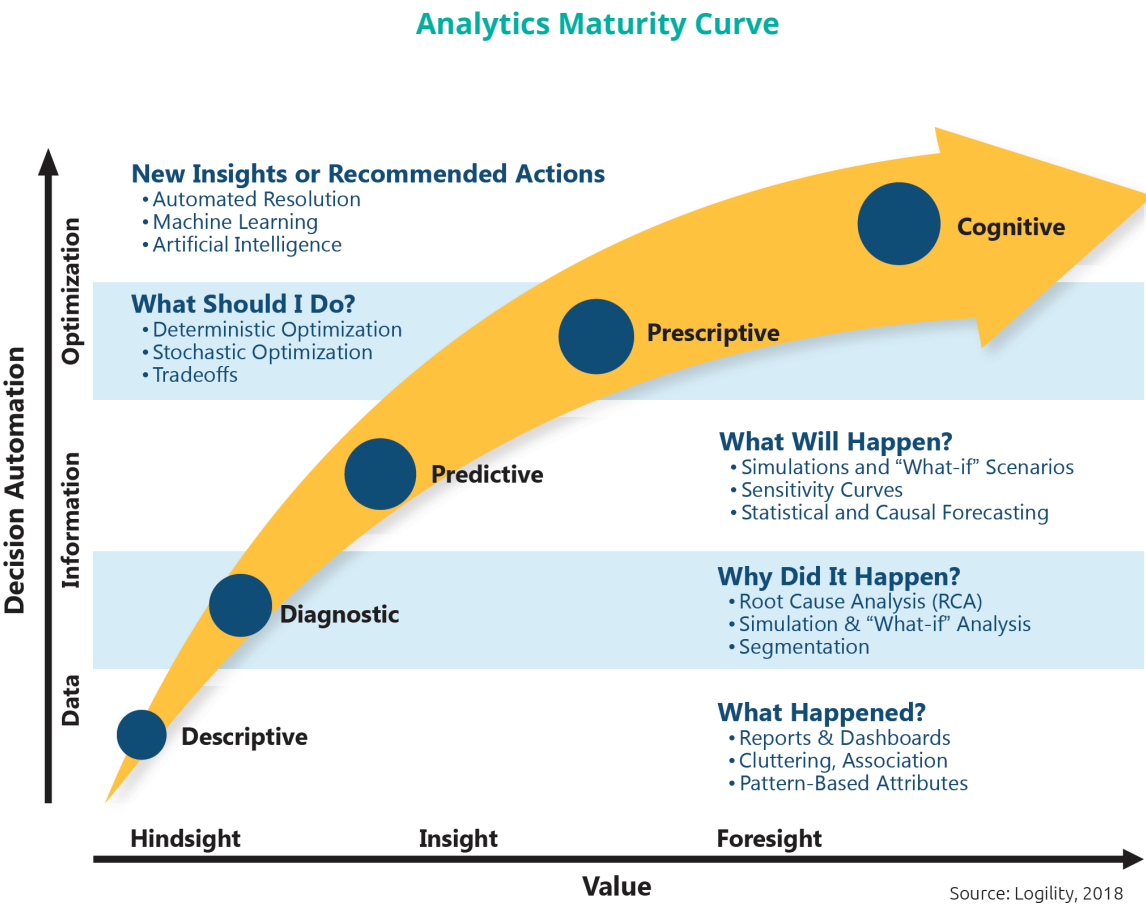
Conserve decision-makers' time and focus their attention better by designing systems that present only essential information at critical points in time.

5

Reduce the risk of flaws in real-time analytics solutions by building guardrails into both automated and human decisions.

Supply chain analytics is the application of mathematics, statistics, predictive modeling and machine-learning techniques to find meaningful patterns in the vast mountains of data produced by enterprise systems and external sources. Tapping into both structured and unstructured data sources, advanced analytics help you draw conclusions about your demand, inventory, production and distribution operations to quickly drive more informed business decisions.

Moving from basic descriptive to advanced cognitive analytics is a journey that builds on each previous step along the way. Getting to higher levels of analytics capability requires simultaneous investments in improving business processes, talent, data management and enabling systems.



Conclusion

Attaining superior supply chain planning and optimization capabilities has become a necessity for survival in today’s highly competitive global manufacturing environment. Manufacturers need to bring together the many pieces of the supply chain puzzle to take advantage of more mature capabilities in the future.

This eBook looks at six of those pieces to help develop a clear picture of your supply chain and set the direction for you to mature your advanced supply chain planning and optimization capabilities.



Additional Resources



Building a Successful Supply Chain Analytics Foundation



Getting to S&OP Success



Beyond ERP: How Logility Extends the Value of Supply Chain Planning by Supporting the Entire Enterprise





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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