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Value of speed

Deliver on the digital supply chain promise with rapid decision-making

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Introduction

A rapid cross-functional planning and decision-making process is key to unlocking the full value of digital supply chain investments.

Digital innovation in supply chain management is improving customer service, cost, and efficiency. However, many organizations have invested in new technologies but failed to address the human element—specifically, how can employees more easily share and absorb all the valuable new data to make faster decisions and drive better outcomes?

Supply chain decisions that cut across functional silos are among the most difficult to make. Appropriate forums, decision rights, technical solutions, or shared "ways of working" may not be in place. Establishing these collaborative processes requires management focus and resources to overcome numerous challenges, and to ultimately drive the transformational change made possible by new technology.

Companies looking to maximize their investments in digitizing the supply chain must have a sound cross-functional decision-making model, one where technological innovation, organizational alignment, and human intelligence intersect.

As we will demonstrate, accelerating change detection, scenario analysis, and decision execution in one company's supply chain would result in:

430 basis point **improvement** in service level and nearly **5.5% increase** in gross margin compared to acting slowly	**730** basis point **improvement** in service level and **10% increase** in gross margin over sticking to the original supply plan

Source: KPMG analysis of company data, 2021

The following pages discuss challenges and solutions for enabling the promise of digital supply chain, with a particular focus on the sales and operations planning (S&OP) process; how to begin simplifying and accelerating decision-making; and the tangible value of faster decisions.

About the author

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Mark is the supply chain planning leader for KPMG in the U.S., focusing on commercial industries, and the firm's global functional lead for supply chain planning. In his role, he also works with financial transformation professionals across KPMG to provide integrated business planning solutions.

Mark has more than 25 years of experience in consulting, enterprise supply chain software, and line management. His pragmatic approach to designing and implementing both "quick hit" and transformational supply chain programs has helped multiple manufacturing and distribution companies with complex product portfolios, including those in the technology, industrial manufacturing, and consumer products industries.

Turn S&OP into a decision-making powerhouse

The role of sales and operations planning (S&OP)

S&OP is one of only a few formal cross-functional processes or forums found at most companies, along with corporate strategy, annual business planning and budgeting, and product development stage gates. For simplicity, references to S&OP encompass similar processes most associated with demand-supply balancing and decision-making, including sales, inventory and operations planning, and integrated business planning, etc.

With strong governance in place, empowered employees at lower levels of the organization make decisions on less-critical demand/supply balancing matters. This includes deploying available inventory across the network or estimating the impact of a planned promotion, often in the more tactical sales and operations execution (S&OE) process.

Existing technologies can help them make these decisions, and for advanced companies, machine learning and other innovations further support their decisions. However, technology can only go so far in helping individual employees or departments make supply chain decisions that have wide-ranging impact across the company. Cross-functional perspectives are needed for matters such as:

- **Demand policies**. Policies may include modifying customer priorities or updating demand consensus rules. For example, changes to customer prioritization rules used in allocation situations drive different levels of satisfaction across customers or segments, making allocation a sensitive process in most companies. However, how these decisions are made is not always clear, and it's not unusual to find that the "squeaky wheel" or "loudest voice" was the greatest factor, instead of an informed analysis presented in a cross-functional forum.

- **Supply policies**. Modifications in inventory policies and associated parameters impact service levels and financial performance. For example, modifying service level targets across inventory segments in an ABC/XYZ grid may reduce overall inventory but also shift the product mix, impacting margin. If a win-win solution is available, the decision may not be difficult; but once the low-hanging fruit is harvested, decisions often result in tradeoffs that impact customer segments differently.

- **Significant investments to support flexible supply**. This includes financing incremental supply for uncertain demand that will affect results across financial statements while providing enhanced resilience. For example, inventory and long lead time risk buys will increase working capital on the balance sheet but offer the opportunity to capture upside sales on the income statement.

Many companies don't always know where their supply-chain-related decisions are made, yet this basic information is necessary to support an effective S&OP process. Therefore, one of the first steps to take is defining which types of decisions need to be made across existing forums, and whether any new forums need to be included in supply chain decisions.

The decision matrix

Clearly, S&OP can handle multiple key decisions. However, at a minimum, S&OP should enable cross-functional agreement on both the demand plan and the company's plan to match supply to this demand statement. In manufacturing companies, this is the supply plan, or alternatively, the ship plan.

The table at right is an example of a decision-making matrix created with a product manufacturer indicating which of 11 decision categories are addressed in each forum, with a focus on developing the S&OP process.

Sample decision matrix for a multibillion-dollar product manufacturing firm

Category	Description	Forum	Illustrative decisions
Demand strategy	Long-term, proactive demand decisions	Strategic Planning	Enter a channel with new requirements, refine customer priorities, sever relationship
Demand policies	Implementation of a strategic decision through policies	S&OP	Customer service policies and parameters (lead times), modify demand consensus rules
Demand tactics	Short-term demand decisions	S&OE or Demand Review	Quantify cannibalization, risks and opportunities in base plan or not, consensus business rules exceptions
Supply strategy	Long-term, proactive supply decisions	E-Staff	Increase/decrease suppliers, insourcing versus outsourcing, supply network changes, supply chain segmentation, postponement, et al
Supply policies	Implementation of a strategic decision through policies	S&OP	Modify inventory target policy/parameters, payment terms
Supply tactics	Short-term supply decisions	S&OE or Supply Review	Change/qualify component to mitigate availability issues, promote shift in product mix, E&O write-offs, overtime
Working capital investment	Decision with direct working capital implication	S&OP (over $X); S&OE (under $X)	Approve ship plan, purchase long lead time materials or produce FG for nonfirm demand; last time buy volumes
Capital investment	Decision with a direct capital investment implication	E-Staff	Modify distribution center or manufacturing capacity
Demand expense	Demand decision that will incur a clear expense	S&OP (over $X); S&OE (under $X)	Commit marketing programs, promos, FG liquidations
Supply expense	Supply decision that will incur a clear expense	S&OP (over $X); S&OE (under $X)	Expedite at higher cost to meet demand; modify approved modes of transportation
Product	Product portfolio and roadmap decisions	Portfolio Management	Pull in/delay SKU discontinuation, revise SKU rationalization targets, roadmap changes

Five hurdles to effective cross-functional decision-making

In addition to defining the appropriate forum for supply chain decisions, organizations may also need to address one or more common obstacles that hinder effective decision-making across the company.

1 **Functional excellence bias**

The employees who rise through an organization tend to earn their positions by demonstrating strength in their specific domains. They may be highly competent in sales, marketing, finance, or another area of functional expertise, but their ability to make good decisions may be limited to their function. While companies are getting better at recognizing that skills and capabilities often cross-functional boundaries, legacy reward systems often continue to prioritize singular functional excellence.

2 **Conflicting incentives**

"You get what you measure," is an old and powerful adage. And what companies measure most often are metrics that are easily quantified with direct traceability to the income statement. This environment is often rife with contradiction, drawing out inventory decisions, and risking execution.

The good news is that mechanically fixing incentive structures can be relatively easy compared to other challenges; however, implementing these changes will need C-level investment. Incentives that cross functions, such as cash flow, e.g., earnings before interest, taxes, depreciation, and amortization or return on invested capital goals that incorporate several different functional perspectives can facilitate balanced decision-making.

Inventory policies offer rich examples of how conflicting incentives impact decision-making speed—especially as inventory ownership is fragmented or unclear at many companies.

- **Procurement.** The procurement organization's most important metric at most companies is cost reduction. This is fairly easy to quantify, and direct material cost savings improve the income statement. In contrast, the impact of supplier flexibility needs to be traced through a set of assumptions and even then may primarily affect inventory, a balance sheet asset without a direct income statement impact. This often leads procurement to favor the supplier that offers slightly better cost reduction performance over one that can operate with lower lead times and require less inventory.

- **Manufacturing.** Most manufacturing plants are rewarded for producing the largest quantities of a given product possible, as this improves utilization and fixed asset cost absorption. Without some central control, these incentives lead to increased inventory and are inconsistent with demand-driven approaches where the customer is the driving force.

- **Supply Chain.** If not rolled up under procurement, supply chain typically has a more balanced scorecard than other functions; however, there may be a tendency to severely limit buffer in the system, e.g., inventory, long lead time risk buys, or additional tooling necessary to support upside opportunities. At other companies, supply chain may be distribution-centric and overemphasize transportation costs encouraging increased inventory.

- **Finance.** Especially in public companies, finance is inherently calendar oriented and focuses on quarter-end inventory targets, therefore closely reviewing the cost accounting related to cost absorption and quarter-end inventory. This can result in various unnatural short-term actions that also ensure average inventory is underrepresented in financial statements.

- **Sales.** Sales is typically focused on revenue, and secondarily on margin, which promotes an "inventory at any cost" approach and can lead to SKU complexity with an unnecessarily diverse portfolio. Salespeople may understand the negative impact, but their typical behavior is generally heavily rewarded.

> **Mechanically fixing incentive structures can be relatively easy compared to other challenges; however, implementing these changes will need C-level investment.**

Five hurdles *continued*

Ways of working

3
Executives may not be comfortable making decisions in more open forums outside of their "home" function. Implementing cross-functional, decision-making forums encourages new ways of working that support accountability up and down and helps employees focus on supporting analysis without "cover your back" behavior. When there isn't an appropriate forum to make cross-functional decisions, organizations can build or mature their existing S&OP process to serve this purpose.

However, companies need to watch for several common pitfalls. First, S&OP may be reporting focused when it should be decision-making focused. Especially if no effective S&OE process exists, S&OP may focus on near-term concerns whereas many cross-functional supply chain decisions impact a longer time horizon. And finally, S&OP may lack appropriate heft in the organization, and leaders may not prioritize attendance.

Limited analytics

4
Scenario management is a powerful and flexible technique for executives to consume data that provides insights into options and decision impacts. As we demonstrate in our subsequent supply plan decision example, scenario management projects impacts and tradeoffs across four value elements:

- Revenue, the top concern for many organizations

- Cost, and hence margin

- Assets, including working capital

- Risk

However, scenario management is only as effective as data quality and technology tools that generate the analysis. A consistent approach, such as a uniform scenario format and options that cover these four value elements, enables faster consumption and better decisions. This technique requires preparation and analytic capabilities but gets easier with experience and forces the team to think through options and impacts.

Limited regional or central planning

5
Many less-mature companies have limited central planning capability or governance, and this means manufacturing plants will make demand/supply decisions based on their limited visibility and siloed incentives. However, in most large companies, plants have interdependencies from common products, suppliers, or customers that make a central planning capability essential to optimize demand/supply decisions across the internal and external network. This capability requires thoughtful design and implementation across the six operating model layers (process, organization, service delivery model, technology, information, and governance) to implement a meaningful capability, often necessitating rebalancing of decision rights across the company.

> **Organizations without an appropriate forum for cross-functional decisions can build or mature their existing S&OP process to serve this purpose, but should beware several common pitfalls.**

The tangible benefits of accelerating the decision-making process

Understand the components of decision-making

Before an organization begins to implement changes to its decision-making processes, it first should consider the meaning of speed in the supply chain.

For example, an organization may make a difficult decision in just minutes, selecting one of three plans to resolve a supply chain issue after a single meeting. But if that issue arose six weeks ago, is that still a quick decision?

To explore this further, we break decision-making into three primary elements:

1 When did you know a change would be meaningful?

How fast does the company uncover a situation that requires action? For example, a core use case for digital technologies is detecting demand trends on social media, which may tee up the need to make an investment decision to support additional supply for a newly released product. The time it takes to detect a meaningful demand change and start the analysis is part of our simulation model.

2 How quickly can you analyze the data and decide?

How long does it take to generate the scenarios required to make an informed decision? In all but the smallest companies, this requires both a solid S&OP process and scenario management technology to deliver trusted analysis. Once the analysis is available, how fast does the decision get made? Is there a decision-making cadence that drove the analysis timing? If not, are the decision process and rights clear to maximize the benefit of the requisite scenario management capability?

3 How fast can you implement the decision?

Finally, if teams don't execute decisions cleanly or if they second-guess, then the efforts to accelerate decision-making won't deliver the impact organizations are working to achieve.

There are obstacles to implementing and sustaining sound cross-functional decision-making, one of which is obtaining the investment required to build the capabilities that speed up quality decision making. To help with this challenge, we present an analysis that demonstrates the value of speed.

Good decisions drive significant value

Better allocation decisions can improve important customer relationships, thereby enhancing revenue and margin. Or better inventory management can lower working capital for a given service level. It's also intuitive that making and implementing those quality decisions faster is beneficial. However, the value of that speed and agility is more difficult to quantify.

Standard enterprise planning solutions do not consider how long the organization takes to detect and decide that a given demand change is "real." Does the data indicate a trend or is it just a result of a special event that is not yet understood? How many weeks need to go by before the demand changes are validated and the implications are clear enough to define options? Similarly, these solutions do not consider that the scenario may be revisited in the next cycle and that a subsequent action may be taken.

However, practitioners can use the following analysis to inform their supply chain transformation business cases, ultimately helping multiple functions agree to invest in improvement and overcome the inertia of the status quo.

Simulation analysis: Charting how faster decision-making leads to better customer service and higher overall gross margin

To help one client visualize how speed could improve the balance between service level, cost, assets and risk, KPMG used the following simulation analysis with three scenarios for reacting to an unplanned demand increase:

1   **Stick to the agreed supply plan.**

2   **Act slowly, and assume longer lead time to make and implement the decision (see the table at right).**

3   **Act quickly, with shorter lead time to make and implement the decision.**

Impact of supply plan decision speed (demand upside scenario)

Gross Margin
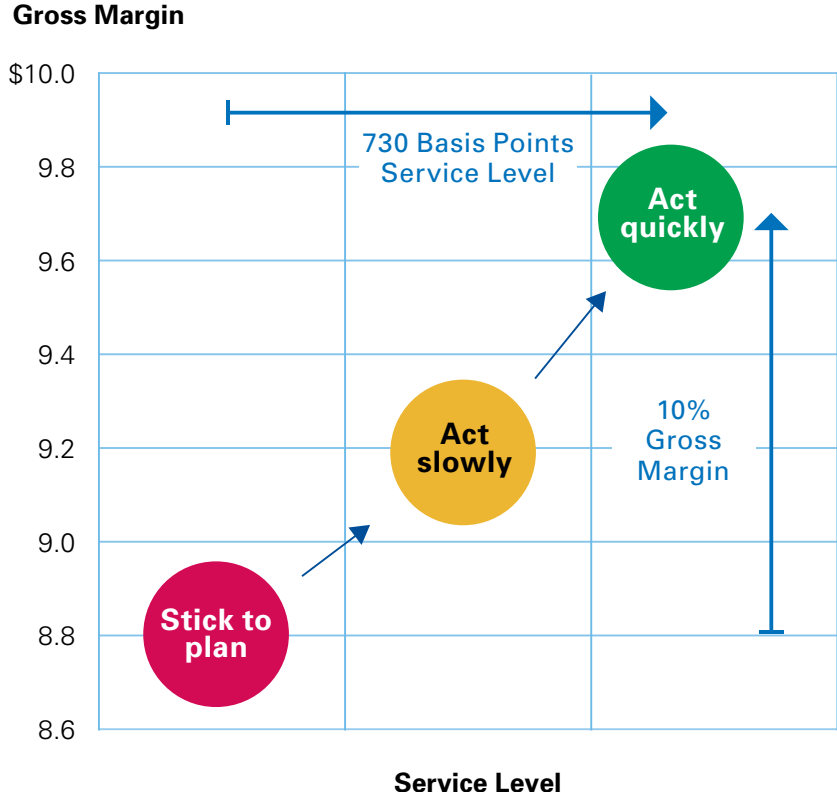
Source: KPMG analysis of company data, 2021

According to the model output, faster validation and scenario analysis to inform supply chain decision-making, combined with faster execution, would improve service level 730 basis points and increase gross margin 10 percent if a demand upside occurs with the base supply plan.

To understand the data and analysis that went into model output, we can take a closer look at the "act slowly" scenario, #2 (on the following page).

Good decisions drive significant value (continued)

Data is the output of an "act slowly" scenario

The following is a weekly simulation of product movement, unconstrained by normal curve assumptions common in most stochastic models. It incorporates typical supply side reactions to demand/supply imbalances to reflect that organizations are active supply chain managers.

To achieve valuable results, the model was run nine times with different demand and supply settings to create a 3 x 3 matrix, and each run is summarized with up to six outputs.

The middle scenario represents the default plan for demand and supply. The other results indicate the combination of demand changes that may occur outside of the company's control, and the supply plan decision to be made.

For example, if the decision is made to increase the supply plan (Row A) and demand is lower than expected (Column 3), then the inventory weeks of supply balloons in this "act slowly" version.

Impact of supply plan decision speed (demand upside scenario)

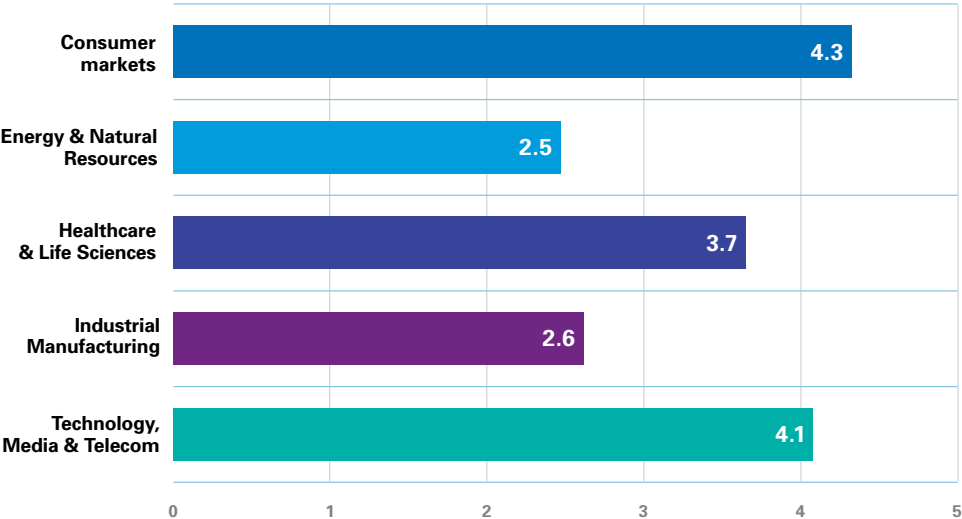|		**Actual Demand to Plan**		
SHIP PLAN SCENARIO		**HIGH**	**STANDARD**	**LOW**
AGGRESSIVE	Service	100%	100%	100%
	Revenue	$ 24.6	$ 19.4	$ 14.5
	Margin	$ 10.1	$ 7.9	$ 5.9
	Weeks of Supply	1.3	4.6	8.7
NORMAL	Service	93.3%	100%	100%
	Revenue	$ 22.5	$ 19.4	$ 14.5
	Margin	$ 9.2	$ 7.9	$ 5.9
	Weeks of Supply	1.4	4.2	7.6
CONSERVATIVE	Service	85.8%	98.7%	100%
	Revenue	$ 20.4	$ 19.2	$ 14.5
	Margin	$ 8.3	$ 7.8	$ 5.9
	Weeks of Supply	1.4	2.6	11.5

Source: KPMG analysis of company data, 2021

Predictability and return on equity

Supply chain transformation leading to sustainable, long-term improvements can require significant investment and time. However, devoting company resources to improve supply chain decision-making can lead to faster and more predictable results, and that predictability is valuable. One of the positive impacts is the company's ability to set and meet earnings targets.

Return on equity (ROE) of "predictable" versus "unpredictable" companies, 2015–2020

- "Predictable" companies are defined as those who reported annual earnings off 10 percent or more from expected earnings less than 20 percent of the time during the years studied, 2015–2020. Earnings from "less-predictable" companies were in line up to 80 percent of the time and not consistently negative in the same timeframe.

- The ROE advantage is the difference between the median ROE of predictable and less-predictable companies.

Influence of earnings predictability on ROE by sector, 2015–2020

Sector	Value
Consumer markets	4.3
Energy & Natural Resources	2.5
Healthcare & Life Sciences	3.7
Industrial Manufacturing	2.6
Technology, Media & Telecom	4.1

Source: KPMG analysis of Capital IQ data, 2021

> **According to data analysis by KPMG, companies that are more "predictable" or likely to meet earnings targets deliver a ROE 2 – 5 points higher than those that are less predictable.**

In summary

Supply chain transformation requires more than layering digital technologies onto existing processes

How organizations make supply chain decisions is just as important as the tools they use to explore the options. Collaboration across functions is critical in order to derive maximum value from digital supply chain investment. And yet, the means to address supply chain decisions holistically are often deficient, hindered by functional bias, conflicting incentives, inefficiency, limited analytics, and planning silos.

One answer is to solidify and leverage the S&OP process to support cross-functional perspectives on key demand and supply decisions, particularly those with potential ripple effects across the company. Once established, employees have a valuable structure for making faster, better-informed decisions, ultimately helping companies produce more predictable outcomes.

Digital supply chain transformation holds great promise for better customer service, lower costs, and greater efficiency; an effective decision-making model helps companies realize all of the benefits.

How KPMG can help

KPMG professionals have extensive knowledge and experience helping companies transform their supply chain operations. Based on our firm's years of experience in supply chain, we start by helping companies develop a **detailed target operating model**:

- **Business process**, the framework for the processes and functions involved, outlines specific steps, integration points, outcomes and measures, as well as required policies and procedures.

- **Organization** defines the talent required to support the process and activities, as well as associated rewards, recognition, and incentives.

- **Service delivery model** defines how activities and outputs are performed and delivered through the organization, outlining who and where activities are executed.

- **Supporting technology** includes technologies and tools that are used to support the processes, execute key activities, and generate reports and analytics.

- **Performance insights and data** defines the information, reporting, and key performance indicators required to drive better decision-making across the organization and the supply chain.

- **Governance** establishes and maintains the standardized processes, procedures, escalation paths, and data structures/master data used in the process.

Our team works side by side with procurement, finance, technology, and other company leaders throughout the transformation, from analysis and planning to pilot programs and technology and process rollout. The resulting integrated and highly functional supply chain planning solution has multiple potential benefits:

- Improved long-term planning focused on customers

- Faster and more accurate decision-making

- Clearer visibility into supply and demand trends and disruptions

- Increased productivity through process automation and exception management

- Increased service levels leading to deeper customer loyalty

- Less expediting and lower premium transportation costs

- Aligned working capital and reduced inventory reserves

- Greater ability to adapt to changing market conditions

We look forward to speaking to you about your company's unique supply chain challenges and opportunities.

Contact

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