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GAIN A COMPETITIVE ADVANTAGE WITH NEXT-GEN SUPPLY CHAIN PLANNING

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ABERDEEN

Staying current on supply chain technology is critical to remaining competitive. At the nucleus of any supply chain is the planning function that must constantly balance supply requirements against demand to satisfy customer expectations. This research report compares and examines the traditional siloed approach to planning vs. a modern, concurrent approach — enabled by a single platform for all supply chain data, processes, and collaboration.

Introduction

In order to meet increasingly demanding customer commitments, organizations today must accelerate their processes and respond to demand for information in real time or near-real time. Maintaining the status quo is unacceptable. Delivery expectations used to be two days, with a premium for next-day. Then next-day became the expectation. Now, many buyers are demanding same-day deliveries.

But for most companies, planners are still using Excel to consolidate their plans and options, and are stuck in systems whose planning fundamentals are still siloed — where each stage of supply and demand happens in a linear sequence across independent functions, characterized by handoffs from one silo to the next to complete a planning cycle. This type of approach results in supply chains being unable to keep pace with the speed of business in today's volatile environment.

On top of that, companies have spent millions on multiple ERP instances and added-on planning modules, but the fundamentals of a traditional siloed planning approach have not changed much, if at all. Executives are unhappy with big investments that yield only minimal results, and even IT professionals, long-time champions of sticking with a single vendor, are tired of having integration and connection challenges due to data being housed in so many different systems.

The Aberdeen maturity class framework is comprised of three groups of survey respondents. This data is used to determine overall company performance. Classified by their self-reported performance across several key metrics, each respondent falls into one of three categories:

- Best-in-Class: Top 20% of respondents based on performance
- Industry Average: Middle 50% of respondents based on performance
- Laggard: Bottom 30% of respondents based on performance

Sometimes we refer to a fourth category, All Others, which is Industry Average and Laggard combined.

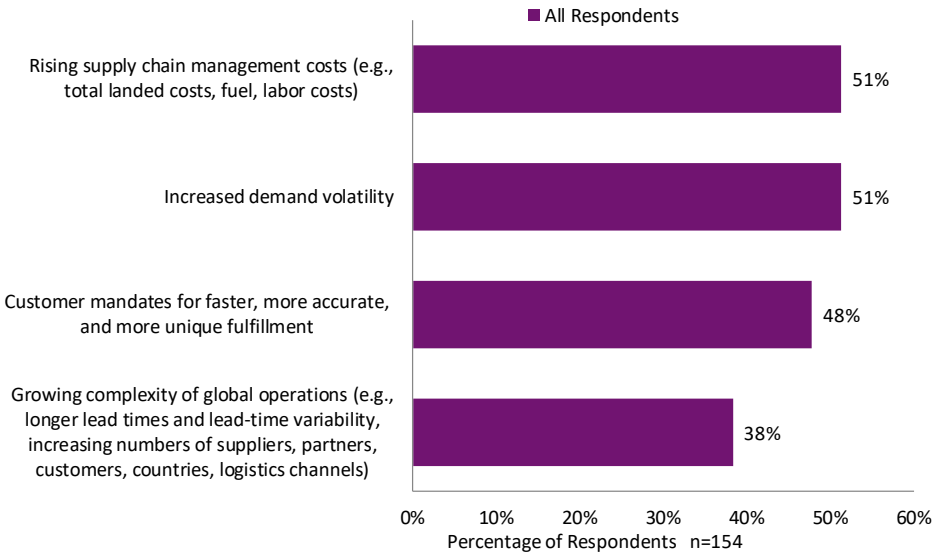
Business Pressures Facing Supply Chain Leaders

The business pressures that companies face in managing their supply operations are the source of these challenges, as shown in Figure 1. Supply chain costs are always one of the top issues companies are under constant pressure to manage, and it goes beyond just doing their job better. Many of these costs are structural changes, such as the shift in freight costs from bulk to more parcel (3x-5x higher), due to omni-channel requirements to ship product directly to customers rather than through traditional distribution channels. Another is more complexity at the supplier level in the quest to find the lowest-cost sources.

For industries such as life sciences, managing shelf life, new products phase in / phase out, and traceability adds another level of complexity. Product-based companies such as high-tech, automotive, and industrial have many of the same new product introductions and time-to-market issues that must be managed closely. Lead-time reductions are critical factors in each one of these industries.

Customer mandates for faster, more accurate, and unique fulfillment are also a function of the rise of the empowered customer, who dictates when, where, and how they shop — as well as how and where they want the product delivered — resulting in many of these changes in distribution.

Figure 1: Business Pressures



Source: Aberdeen, August 2018

Increased demand volatility is at the heart of planning challenges, because planning for an organization *begins* with the statement of demand that drives the planning process. The greater the volatility, the greater the disruption and number of changes that must be made to satisfy customer requirements. Volatility is also a function of the shifts in

distribution channels, due to direct-to-customer shipments, which have disrupted overall shopping / distribution patterns. Product lifecycle challenges, shelf life considerations, promotions, and unique product environments also contribute to volatility for other industries.

Customer mandates for faster, more accurate, and unique fulfillment are also a function of the rise of the empowered customer, who dictates when, where, and how they shop, as well as how and where they want the product delivered — for virtually all products — resulting in many of these distribution changes. Even for verticals that are not immediately consumer driven, the emphasis for shorter lead times and speed has been ratcheted up. These changes have also impacted B2B business models, which have evolved into B2B2C fulfillment models. These structural demand changes, which result in fulfillment mandates, impact all levels in the supply chain by increasing volatility and cost.

Underlying these top three pressures is the increased supply chain complexity resulting from an increased number of suppliers, partners, and fulfillment points that must be supported by a larger, deeper network of carriers across more countries and continents. This increased complexity is driven in large part by the efforts to find and maintain the lowest-cost supplier that provides the highest quality or offers the latest technology.

Current Landscape of Enterprise System Adoption

There are also some structural system considerations that affect the planning function based on what companies have in place now to run their businesses. Aberdeen research indicates:

- 54% have an ERP — which means that means 46% do not
- 19% have ERP financials
- 7% have a legacy or home-grown transaction system
- 8%-20% are still on spreadsheets or manual

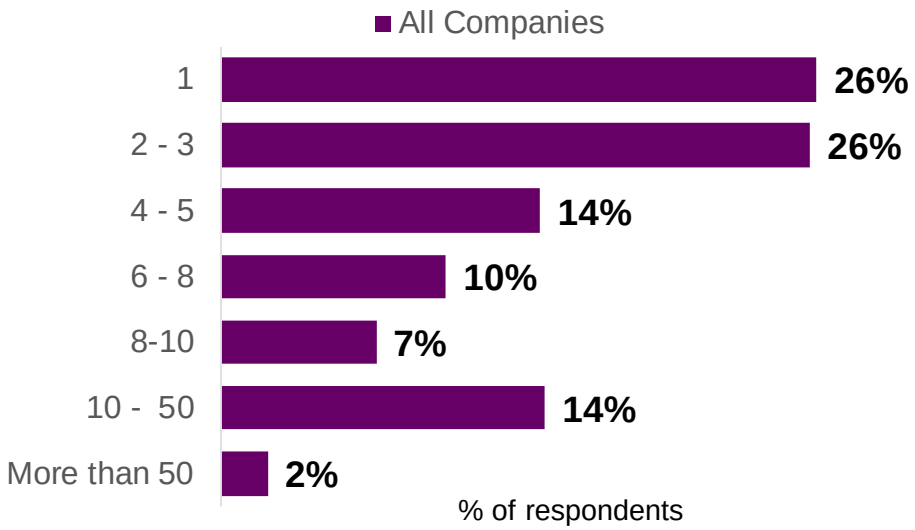
How Many ERPs Do Companies Have in Place?

Figure 2 provides a breakdown of how many ERPs that companies manage today.

- Only 26% have one ERP — which means 74% have two or more
- The majority (52%) have three or less — which means 48% have four or more

- 33% have six or more
- In some extreme cases — largely due (presumably) to acquisitions — some companies have over 100

Figure 2: Number of ERPs



n = 314, Source: Aberdeen, August 2018

Implications for Planning Based on Current Landscape

In addition to outdated planning, 74% have integration issues because they have two or more ERPs. Where two or more ERPs exist within a given business unit, the integration between the two ERPs will exacerbate siloed planning — unless the organization has adopted some best-of-breed tools to tie these plans together under "one roof." Figure 3 shows the adoption levels of different planning systems.

- 60% have an ERP which uses traditional siloed planning (materials requirements planning, or MRP)
- 18% have a best-of breed manufacturing and materials planning system
- *Only 14%* (16% of the Best-in-Class — page 2 sidebar for definition) have a best-of-breed planning solution that can span multiple transaction systems using a modern concurrent planning approach
- 20% are still on spreadsheets or manual
- 19% have ERP financials — no planning capability included

Aberdeen Maturity Class Performance

Customer Service

- Best-in-Class: 93%
- All Others: 79%

Cash-to-Cash Cycle Days

- Best-in-Class: 39 days
- All Others: 59 days

Gross Margin

- Best-in-Class: 35%
- All Others: 23%

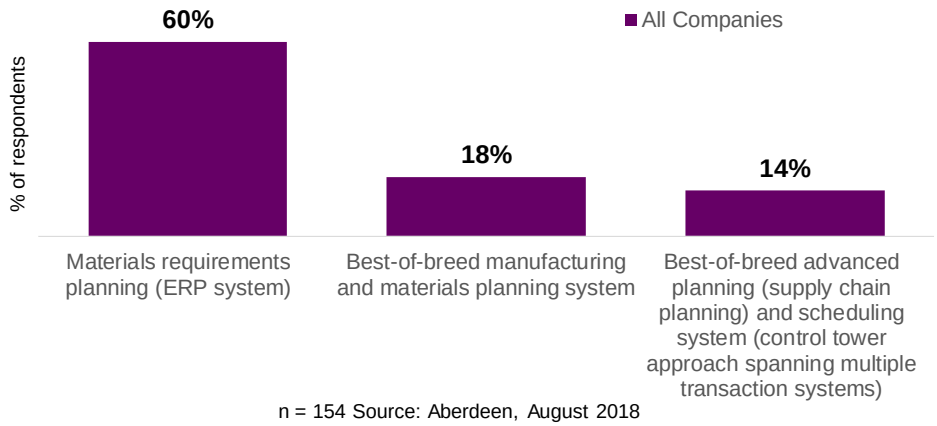
Forecast Accuracy — Product Family Level

- Best-in-Class: 68%
- All Others: 43%

Forecast Accuracy — SKU Level

- Best-in-Class: 60%
- All Others: 38%

Figure 3: Planning Solution Adoption



n = 154 Source: Aberdeen, August 2018

Planning and managing your supply chain must address complexities around product, demand, supply and distribution, as well as supply chain disruptions like damaged supply or unexpected weather events. ERP systems with bolted-on planning modules are insufficient for addressing these challenges in today's increasingly complex and fast-paced business landscape, because the planning and response cycles with siloed planning are too slow to satisfy customers. Since they are siloed, for companies with multiple ERPs, integration challenges can further delay planning and response cycles.

What's needed is a more viable option that removes the uncertainty around supply chain planning strategies and helps you get more from your existing ERP investment. A solution that can span and model multiple transaction systems into one synchronous, concurrent plan is what today's business circumstances call for. This is particularly true for companies that have more than one ERP. The result is significant improvements to revenue, margin, customer service metrics and planning-process cycle times. The concern is that only 14% (16% of the Best-in-Class) have a best-of-breed planning solution that can span multiple transaction systems, which is the type of solution that can solve the planning issues across multiple ERPs.

Best-in-Class performance warrants attention to the things they do differently — specifically, the capabilities they have in place and the technology enablers they employ.

Best-in-Class Performance

In aggregate, it's clear that the performance of Best-in-Class companies far outstrips their competition. At the business performance level, Best-in-Class companies, compared to their competition, have:

- 18% higher complete and on-time delivery
- 35% shorter cash-to-cash cycles
- 52% higher gross margins

Their performance warrants attention to the things they do differently — specifically, the capabilities they have in place and the technology enablers they employ.

At the planning level, the process performance of the Best-in-Class is also significantly greater:

- 59% higher forecast accuracy at the product family level
- 55% higher forecast accuracy at the SKU level

The magnitude of the differences is significant and highlights the point that there are far fewer disruptions in the supply chain to manage as a result of superior planning. Best-in-Class companies are adjusting their execution plans less than half as much as All Others. (Adjusting, in this case, means moving orders / materials out of the schedule and moving other orders into the schedule because of poor forecasting, which translates directly into higher costs and poorer customer service — both of which are evident in the business performance metrics.)

Concurrent planning harmonizes all data from all transaction systems in a single planning platform, to enable more profitable decisions in *seconds and minutes* vs. *hours and days*.

Traditional Siloed vs. Modern Concurrent Planning Processes

The following descriptions of siloed and modern concurrent planning identify the main differences between the two processes, which is important to understand, because it involves supply chain, operations, sales, finance, marketing, procurement, and IT, plus leadership, to make it happen correctly. It's not as easy as flipping a switch, and involves a concerted effort to move from a siloed approach to a concurrent planning approach.

Traditional Siloed Planning

- Information filters from one functional group to another. Even system-to-system handoffs are sequential and take time.
- Demand plans are created in isolation and then "tossed over the fence" to supply planners working in another module to sort out. Nothing is ever in sync.

- Can mean lost revenue and productivity while you wait — think of real-time visibility concerns.
- Despite all the big ERP investments, planning remains siloed and disconnected. Your ERP vendor doesn't solve your biggest problem.

Modern Concurrent Planning

- Plan your entire supply chain in *one synchronous model.*
- Continuously and constantly balance supply and demand.
- Demand and supply planning happen in tandem with all data, processes, and people, tied together in a single place.
- Concurrent planning applies to monitoring, as well. The impact of a change across your entire supply chain network can be seen *immediately*, so if something throws a plan out of alignment, you can respond to change, see the impact of your response, and collaborate on the best course of action.
- Concurrent planning harmonizes all data from all transaction systems in a single planning platform, to enable more profitable decisions in *seconds and minutes* vs. *hours and days.*
- One single version of the truth focused on corporate metrics vs. competing data sources.
- Teams work together toward corporate goals vs. functional goals, using one data set.
- Concurrent planning drives more value from your ERP system than traditional siloed planning. Since planners at the Sales and Operations Planning (S&OP) process level can plan and re-plan, in minutes and days rather than weeks, the reduction in cycle time for concurrent planning vs. siloed planning can result in 3-4 weeks given back to the supply chain.

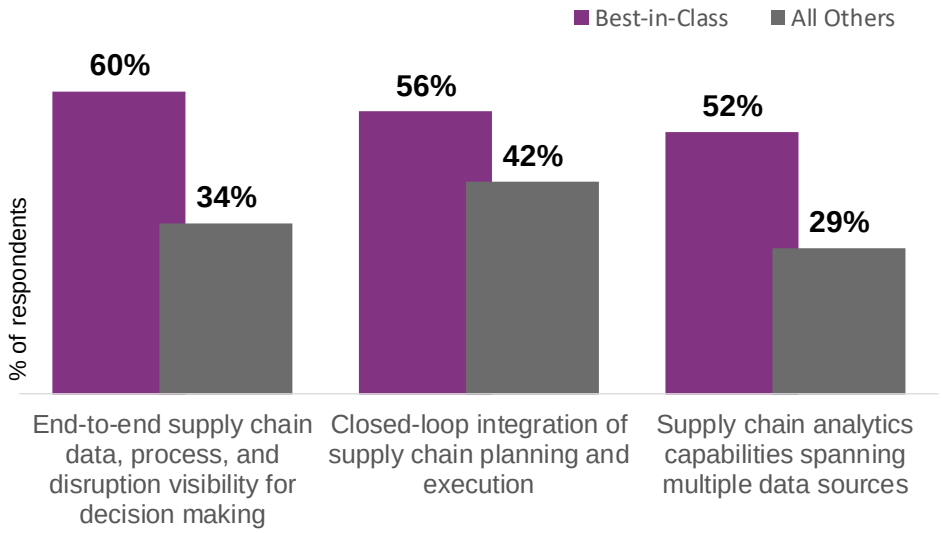
End-to-end Supply Chain Modeling and Integration

Concurrent planning provides an end-to-end view of the supply chain represented in an "in-memory" solution model. The more complete or representative the model of the end-to-end supply chain across one or multiple transaction systems is, the better the perspective for understanding the impact of any changes will be. A concurrent approach

means that the impact of a change is immediately seen at all levels once it is implemented.

Figure 4 provides concurrent planning capabilities that Best-in-Class companies have in place compared to All Others. Best-in-Class companies are 77% more likely to have an “end-to-end” supply chain model for decision making and disruption visibility. This means that any change or exception can be seen immediately, and that corrective action can be taken as soon as the problem is visible. Contrast this with the handoff-from-one-solution-to-the-next model, where precious time can be (and is often) lost.

Figure 4: End-to-end Supply Chain Modeling and Integration



n = 154, Source: Aberdeen, August 2018

Best-in-Class companies are also 33% more likely to have their planning system integrated with all execution activities, so that any out-of-tolerance conditions can be detected immediately in the form of an exception alert. The *value is in breaking down the silos between systems*, so that any changes can immediately be detected.

Having supply chain analytics to support concurrent planning across multiple data sources provides further visibility into data that could be analyzed before changes are initiated. All Others, who are significantly behind in their forecast accuracy performance, could certainly view this as a call to action, since only 29% of them have this capability in place.

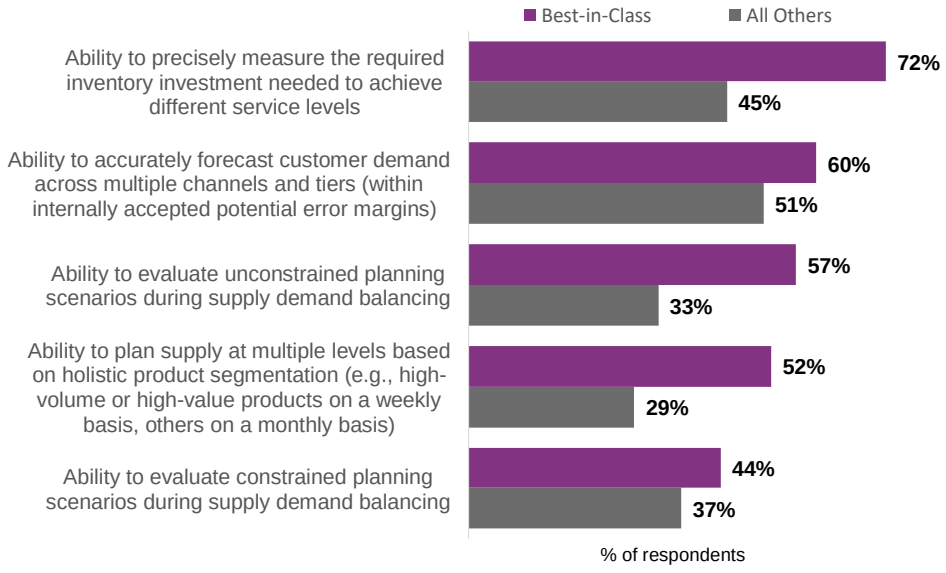
Best-in-Class Planning Capability Advantages

Fundamental supply chain capabilities are shown in Figure 5, and in every case, the Best-in-Class are significantly further in their adoption than All Others.

- Best-in-Class companies are 61% more likely to precisely calculate the inventory investment required to achieve specific service levels.
- Best-in-Class companies are 18% more likely to accurately forecast customer demand across multiple channels and tiers within acceptable accuracy guidelines.
- Best-in-Class companies are 83% more likely plan at multiple levels based on product segmentation.
- Supply / demand balancing (a fundamental planning requirement critical to S&OP and maximizing efficiency):
    - Best-in-Class companies are 73% more likely to evaluate unconstrained scenarios during the balancing process.
    - Best-in-Class companies are 19% more likely to evaluate constrained scenarios during the balancing process.

The supply / demand matching process is the starting point for getting a supply chain in sync with the expectations being placed on it.

Figure 5: Planning Capabilities



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The supply / demand matching process is the starting point for getting a supply chain in sync with the expectations being placed on it. In the S&OP process, there are two fundamental questions that management wants to know:

- "Can we meet the anticipated demand with our existing capacity and material plan, and are there any imbalances that exist where we are short on capacity and / or in an excess capacity situation? If so, what will it take to meet the demand?" This is an unconstrained scenario; *What will it take?*
- "What can we do with what we have? How much more can we support without adding capacity, and in what areas?" This addresses how to maximize capacity utilization and may lead to opportunistic actions that can be taken to leverage any excess capacity. This is a constrained scenario; *What can we support with what we have?*

These last two planning scenarios are the basis behind having a robust S&OP process that drives the organization, and are exactly what a concurrent planning solution delivers on a continuous basis.

S&OP / IBP: Critical End-to-end Enterprise Process

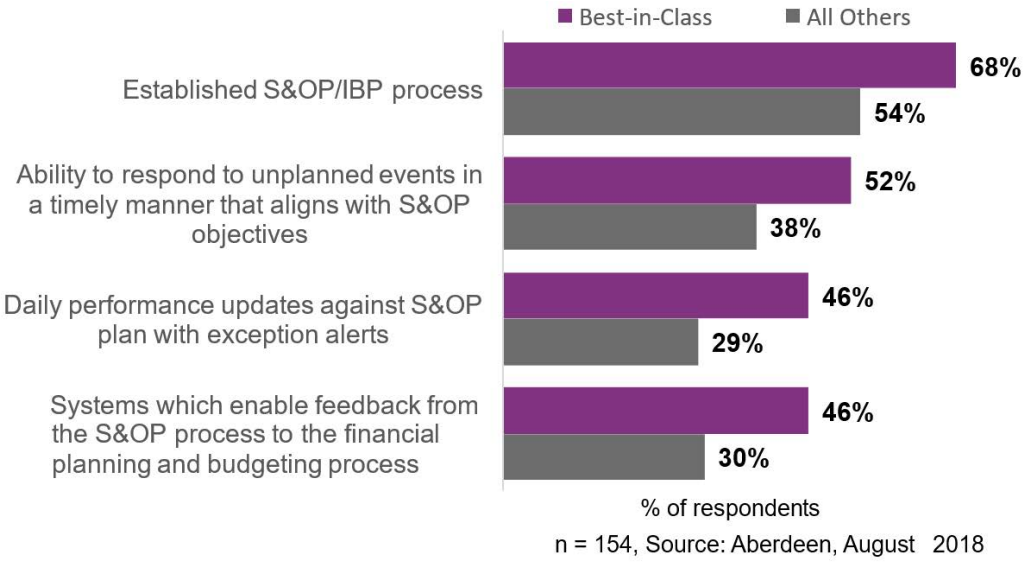
Having an S&OP process is perhaps one of the most valuable management processes that manufacturers can have in place. It begins with establishing a feasible plan based on the demand that the organization believes will materialize. From that point forward, the level of sophistication can progress to predicting how the organization will perform with a high degree of accuracy, and possibly further, to a prescriptive level where strategies are adopted to improve the predicted outcome in some way.

Knowing the financial impact of any changes to the S&OP plan can inform the appropriate corrective actions.

Figure 6 identifies key capabilities beyond the basic planning and supply / demand balancing process. The Best-in-Class are 27% more likely to have an S&OP process in place. Sales and Operations Planning (S&OP) and Integrated Business Planning (IBP) are often used interchangeably. IBP is focused on having the solution components integrated and working in sync so that the basic plan of record can be carried out. S&OP is also concerned about the same issue, but perhaps more focused on the management process and decision making that comes from scenario discussions about the best path forward. Every company finds their own balance between management involvement and integrated solution capabilities.

In addition to having the S&OP process in place, the Best-in-Class are 27% more likely to respond to unplanned events in a timely manner, because they have done the scenario planning as part of the S&OP process to ready the organization. This is the behind-the-scenes work that's typically done with demand planning and supply planning to test the limits of the S&OP plan, as well as the most likely scenarios that the organization might face at the demand / customer level or the supply / capacity level.

Figure 6: Best-in-Class S&OP / IBP Capabilities



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Using S&OP as the operational plan of record, the speed of business requires near real-time responses to exceptions. The Best-in-Class are 56% more likely to have timely feedback to the S&OP plan on a daily basis.

Having the operational plan linked to the financial planning and budgeting process is where the concept of IBP really comes into play. Knowing the financial impact of any changes to the S&OP plan can inform the appropriate corrective actions. The plan is represented at all levels, both operationally and financially.

Comparison Summary — Traditional Siloed vs. Concurrent

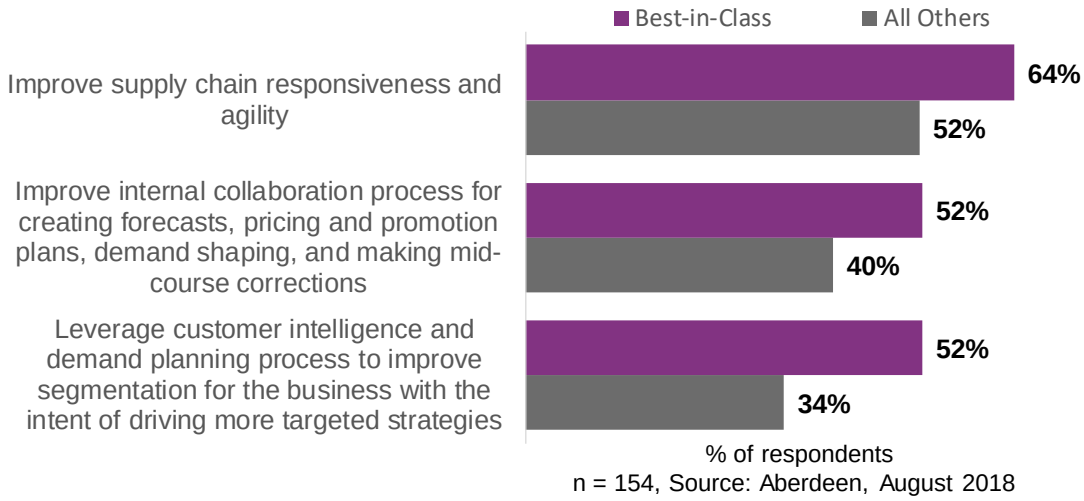
Table 1: Siloed vs. Concurrent Summary

Key Factors	Siloed	Concurrent
Data	• Static • Siloed • Multiple versions	• Active • Real-time access in a single system • Single version of truth
Process	• Slow / difficult to respond to change • Siloed and linear / sequential processing	• Fast, proactive response to change • End-to-end view of supply chain model
People	• Focused on functional metrics • Time spent on getting answers	• Aligned around corporate metrics • Time spent on decisions and proactive analysis
Planning	• ERP • Bolted-on modules to ERP	• All planning supported on one platform • Simulation in seconds without leaving the platform • Simulation in the "system of record" • Easy participation in S&OP processes
IT	• Multiple modules = multiple data models • Connection and integration required • Time-consuming process of importing and formatting data • Connecting each module one at a time	• No need to manage separate supply chain planning modules • The ability to support the current and future needs of the user community • Proven cloud platform — less investment to administer and maintain
ROI Risk	• Investment not delivering on ROI • New modules / updates still siloed	• Maximizes your ERP investment with a single platform • Enables concurrent planning • Provides the risk avoidance IT is searching for

Best-in-Class Strategies

The strategic actions being taken by Best-in-Class companies are shown in Figure 7.

Figure 7: Continued Evolution of Concurrent Planning Model



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All of these actions indicate significant efforts to improve supply chain planning and responsiveness. Traditional siloed planning does not help this effort, and is in fact a deterrent because of process delays. Improving collaboration, modeling, and scenario planning can become prescriptive to making mid-course corrections and problem avoidance. “What if” opportunities will appear that can be modeled and exploited for improved service and lower costs that were not previously even recognized due to lack of awareness. Having a complete picture of the supply chain increases the visibility and broadens the scope of the modeling. The impact of planning and inventory policies might be modified to improve freight costs, for example. The sooner an issue or an opportunity is known, the faster the response or corrective action will be.

Extending the model to incorporate customer intelligence can only help to refine better segmentation strategies. Knowing the plans that a client may have for new products, promotions, facilities, and initiatives for their customers can only improve the readiness to support them. No one likes surprises, and eliminating variables, or least being able to quantify them, can significantly improve service and efficiency.

Summary and Key Takeaways

All areas of business are concerned about staying current with technology for fear of losing their competitive edge — particularly supply chain planning, where that pressure is especially intense due to the growing complexity of supply chains and increasingly demanding customer expectations. To further complicate the challenge, ERP demographics highlight the difficulty that many companies have in managing multiple ERPs — and 74% have two or more. This requires further integration of solutions, even if only for financial roll ups. But if these ERPs jointly manage locations or product segments within a business, modeling and planning for the supply chain structurally becomes problematic, because it encourages a traditional siloed, linear / sequential planning approach.

Concurrent planning is the modern answer to effectively streamlining supply chain responsiveness. It directly addresses the challenge of planning and synchronizing across multiple transaction systems using one data model and platform, and it improves performance due to its speed and instant visibility into the impact of changes within a supply chain.

Traditional siloed planning is where most companies are with their ERPs and bolt-on planning modules. Concurrent planning is where companies need to be. Aberdeen recommends following the lead of the Best-in-Class by moving your supply chain to a modern concurrent planning solution.

Related Research

Managing Risk in Your Sales and Operations Planning / Integrated Business Planning Process; November 2017

How the Best-in-Class Leverage Their S&OP/IBP Process to Better Manage Their Customers; February 2017

Supply Chain Visibility: Know Sooner, Act Now; December 2016

Aberdeen Supply Chain Visibility Framework: An End-to-End Perspective from Demand Through Execution; December 2017

About Aberdeen Group

Since 1988, Aberdeen Group has published research that helps businesses worldwide to improve their performance. Our analysts derive fact-based, vendor-neutral insights from a proprietary analytical framework, which identifies Best-in-Class organizations from primary research conducted with industry practitioners. The resulting research content is used by hundreds of thousands of business professionals to drive smarter decision-making and improve business strategies. Aberdeen Group is headquartered in Waltham, Massachusetts, USA.

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