



Linking CPFR and S&OP: *A Roadmap to Integrated Business Planning*



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“Linking CPFR and S&OP: A Roadmap to Integrated Business Planning”

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1. Overview

VICS, the VICS Collaborative Planning, Forecasting and Replenishment (CPFR®) Committee and VICS member companies have recognized a significant shift in many firms' approach to value chain planning, integration and execution. Leading retailers and their suppliers are becoming more significant stakeholders in the business planning and execution capabilities of their key trading partners. Planning horizons are being extended, consensus single number planning is becoming more prevalent and standardized planning processes and balanced scorecards are moving beyond supply chain planning to executive business management. The VICS CPFR Committee's review of company case studies and industry research has led us to propose a new best practice model that links Sales and Operations Planning (S&OP) and CPFR to create an Integrated Business Planning (IBP) model across trading partners.

You should be interested in this best practice business process guideline from VICS if you continue to find business performance curtailed because of a lack of coordination, alignment and trust between functional areas within your own firm or between your firm and its most important trading partners. While you may have significant strengths in engineering or product development, marketing or logistics, your company may not have a best practice executive management process that enables you to unlock significant value through collaborative innovation.

The hallmarks of Sales and Operations Planning are establishing a process to create a single consensus operational and financial plan for the firm through a series of coordinated reviews led by senior management to integrate strategic, operational and financial plans over an extended horizon. S&OP is the best practice model for internal collaboration for a business entity. The hallmark of CPFR is the development and execution of consensus plans between trading partners. Fundamentally, the aim of CPFR is to convert the supply chain from a disjointed, ineffective and inefficient "push" system to a coordinated "pull" system based upon end consumer demand. CPFR is the best practice model for external collaboration between business entities. The untapped opportunity is linking S&OP and CPFR to develop an integrated business plan which is coordinated across trading partners to manage the extended supply chain and create competitive advantage for each chain participant. Leading companies have progressed in implementing and obtaining traditional benefits from both S&OP and CPFR such as improved coordination and predictability. What most firms are still missing are the benefits that can be gained from linking strategic plans across the extended supply chain.

What are the key factors driving supply chain partners to link their S&OP and CPFR executive management processes? Suppliers are driven to partner with large finished goods manufacturers and manufacturers are driven to partner with large retail organizations whose purchases change the scale of production and therefore the cost of new products. Large retailers are requesting tailored product offerings that align with their marketing objectives. Large retailers' upstream supply concerns are becoming more similar to that of manufacturers concerning supplier capacity or component and raw material availability. Leading supply chain companies are demonstrating that collaboration with suppliers over an extended planning horizon can provide competitive advantages in product development, alignment of marketing programs and life-cycle and assortment management.

2. The Benefits of S&OP and CPFR:

The benefits of S&OP and CPFR include:

S&OP Benefits Reported by 40 Companies:

- Increased Forecast Accuracy by: 18% to 25%
- Increased Sales Revenue by: 10% to 15%
- Increased On-Time Delivery by: 10% to 50%
- Inventory Reduction by: 18% to 46%
- Safety Stock Reduction by: 11% to 45%
- Increased Productivity by: 30% to 45%

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Benefits of CPFR:

- Increased Sales by: 10% to 30%
- Increased Margin Rate by: 2% to 6%
- Increased In-stocks by: 2% to 7%
- Decreased Inventory by: 10% to 30%
- Improved On Time Delivery by: 5% to 10%
- Improved Forecast Accuracy by: 20% to 30%
- Decreased Logistics and Operating Costs by 10% to 28%

VICS CPFR Case Studies and Collaborative Commerce Achievement Award Winners

Although companies cannot compound the benefits when doing both S&OP and CPFR, companies that link CPFR and S&OP are operating in the upper ranges of traditional benefits and achieving results beyond the tactical and operational benefits that flow from stand-alone CPFR and S&OP activities. The integration of intra-company plans across a longer-term horizon and the shift from middle management tactical conversations to executive engagement on strategic plans are critical to achieving these benefits.

Some of the benefits of linking CPFR and S&OP include:

Hard Benefits:

- Sales and margin growth
- Perfect order performance
- Reduced inventory cost
- Product offerings tailored to both the manufacturer's and the retailer's brand

Soft Operational Benefits:

- Visibility of each company's business plans
- Knowledge of each other's business
- Leveraging assets via an integrated sales plan
- Understanding the root causes of forecast error

Soft Strategic Benefits:

- Improved integrated business planning through senior management involvement
- Increased predictability, scenario planning and probability assessment
- Aligned strategic objectives with a structured performance management program
- Coordinated go-to-market planning
- Coordinated new product plans, lifecycle planning
- Coordinated promotions, demand-shaping programs
- Trust and a commitment to win-win solutions achieved through innovative performance improvements

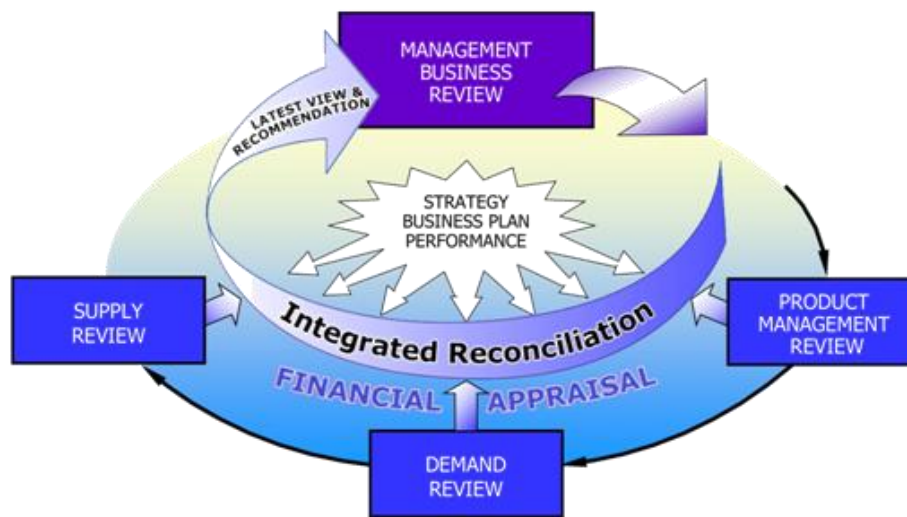
This guideline asserts that linking the internal best practice collaborations of both retailers and suppliers using S&OP and CPFR will enable a more profitable Integrated Business Planning model for both organizations. S&OP was developed approximately thirty years ago. It has evolved to become a more strategic business process, led by executive management. S&OP is a widely-respected process among manufacturers and suppliers. A key new insight of this guideline is that S&OP is equally applicable to retailers. In fact, we support S&OP as a general best practice model for strategic business management and excellence in business execution. CPFR was developed over ten years ago, and it too has evolved to become a much more strategic business practice. CPFR is led by executive management and encompasses large scale implementations with multiple trading partners. Whether your firm is a component supplier, a finished goods manufacturer, a reseller or a retailer selling to the end-consumer, implementing these standards-based best practice solutions will reap significant financial benefits.

3. S&OP and CPFR: Foundational building blocks for achieving linked IBP.

Sales & Operations Planning (S&OP)

Sales & Operations Planning (S&OP) is a formal process led by Senior Management that on a monthly basis evaluates the time-phased rolling projections for new products, demand, supply and the resulting financials. It is a decision making process that aligns tactical plans to the company's strategy over a rolling 18 to 24 month horizon. The objective of S&OP is to reach consensus on a single operating plan which allocates critical resources to most effectively and profitably meet customers' needs. The output of the process is a synchronized product, demand, supply and financial plan over a recommended 18 to 24 month horizon with identified risks and opportunities as well as action plans to resolve any gaps to either the annual business plan or the firm's longer-term strategic plan.

The recognized best practice for conducting a monthly S&OP process is a multi-step model:



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The multi-step model includes the following five primary reviews that occur sequentially throughout each monthly planning cycle: Product Management Review, Demand Review, Supply Review, Integrated Reconciliation and Management Business Review. Each step of the monthly process by design must have a clear objective, an owner/chair of the review, a facilitator or process coordinator, and defined roles, responsibilities and accountabilities for all review meeting participants. All steps are planned at aggregate and family of business levels across an 18 to 24 month horizon.

- 1. Product Management Review:** Owned by the Product Management Executive (Manufacturing) or Merchandising Executive (Retail), the objective of the Product Management Review is to ensure that the product plan, including new products and assortment plans as well as other strategic growth activities of the company are on track for time, cost, demand, supply and resources, and that these plans are in alignment with strategic goals. The Product Review is critical for ensuring the health of the firm's innovation pipeline and particular focus is paid to product life-cycle management.
- 2. Demand Review:** Owned by the Sales and/or Marketing Executive (Manufacturing) or Sales Channel and/or Merchandise Planning Executive (Retail), the objective of the Demand Review is to achieve consensus on a valid, unbiased demand plan and resulting point of sale or shipment forecast that will become the request for product from the end-to-end Supply Chain as well as integrated financials and gap management activities within and across trading partners. The output of the Demand Review is an unbiased demand plan over a rolling 18 to 24 month horizon with assumptions, risks and opportunities identified and action plans to address gaps in annual and strategic business objectives.
- 3. Supply Review:** Owned by the Manufacturing/Supply Chain Executive (Manufacturing) and the Supply Chain Executive (Retail), the objective of the Supply Review is to ensure supply capability including manufacturing capacity, supply chain inventory, transportation and logistics/DC capacity and resources can meet the demand plan, customer service, quality and cost objectives. Imbalances in Demand and Supply are reconciled with appropriate

alternatives and recommendations. The Supply Review ensures that contingency plans are identified to address additional demand risks and opportunities identified by the Demand Review.

4. **Integrated Reconciliation:** Owned by the Finance Executive/S&OP Coordinator, the Integrated Reconciliation is utilized to prepare scenarios to resolve key issues identified in the Product, Demand or Supply Reviews. Additionally this step utilizes the Demand and Supply plans to develop the integrated financial plan including revenue, margin and other P&L, balance sheet and cash flow effects. The Integrated Reconciliation prepares the material and alternatives for decision at the Management Business Review.
5. **Management Business Review:** Owned by the General Manager, President or CEO of the business, the Management Business Review is the decision-making meeting to approve the consolidated operational and financial plan from the prior steps and make decisions regarding issues surfaced during the monthly cycle that require executive guidance. The Management Business Review ensures plans and decisions are in alignment with the defined business strategies.

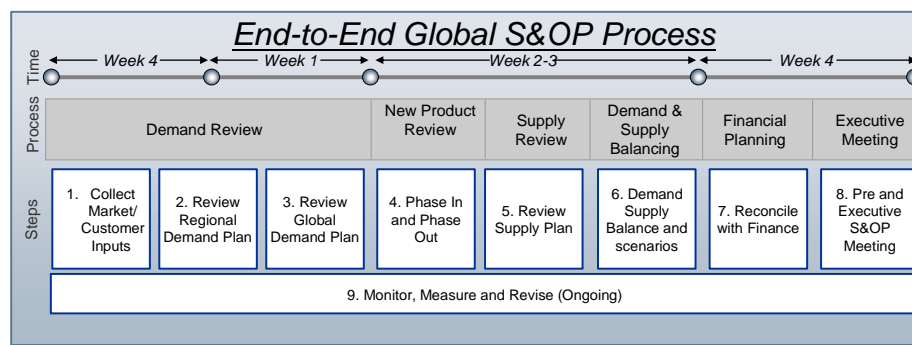
As companies practice and institutionalize S&OP over time, the reviews progress from a focus on increased communication and internal collaboration to problem solving, problem prevention, and ultimately to strategic deployment at the most advanced stage of maturity.

In addition to the benefits described earlier, companies that implement S&OP find they have more reliable plans and better accountability for the plans by participants. Companies find that they reduce fire fighting and ad hoc activities. They develop common goals and plans that drive company performance versus a focus on functional goals at the expense of company performance. S&OP enables the executive team to manage the business, linking tactical activities to strategic goals, and it also empowers middle managers and front-line associates to engage in this process. As a result, S&OP improves overall quality of work life.

While manufacturing and retail adaptations of S&OP are slightly different, the steps, principles, and horizon of the process are fundamentally the same. The primary differences between them are that the executive sponsor (role and title described above) of each step and some of the content of each review may be different. For both manufacturing and retail adaptations of S&OP, the cadence of reviews follows a monthly structure of planning and re-planning meetings as shown below.



What is the S&OP Process Cadence?



Source: JDA Software Group, Inc.

Collaborative Planning Forecasting and Replenishment (CPFR®)

Collaborative Planning, Forecasting and Replenishment (CPFR®) is defined as a business practice that combines the collaborative intelligence of multiple trading partners in the planning and fulfillment of customer demand. CPFR links sales and marketing best practices, such as category management, to supply chain planning and execution processes to increase availability while reducing inventory, transportation and logistics costs.



VICS CPFR® Model

In the retail industry variant of the model shown above, the manufacturer as the seller and retailer as the buyer engage in four Collaborative Activities to improve their performance: The model also applies to upstream buyer and seller relationships.

Strategy & Planning: Establish the ground rules for the collaborative relationship. Determine product mix and placement, and develop event plans for the period.

Demand & Supply Management: Project consumer (point-of-sale) demand, as well as order and shipment requirements over the planning horizon.

Execution: Place orders, prepare and deliver shipments, receive and stock products on retail shelves, record sales transactions and make payments.

Analysis: Monitor planning and execution activities for exception conditions. Aggregate results, and calculate key performance metrics. Share insights and adjust plans for continuously-improved results.

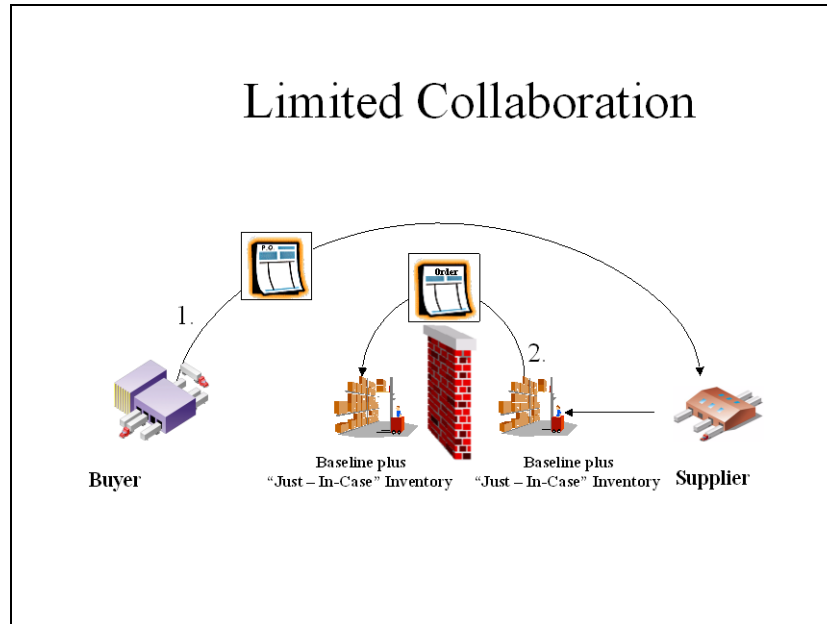
While these Collaboration Activities are presented in logical order, most companies are involved in all of them at any moment in time. There is no predefined sequence of steps. Execution issues can impact strategy, and analysis can lead to adjustments in forecasts. The depiction of the CPFR model may be described as a process model which focuses on defining key arenas for collaborative activities, while the S&OP model is a step model which focuses on defining key review steps in the monthly re-planning activities that are both tactical and strategic. The VICS CPFR guidelines and VICS CPFR certification courses describe a sequence of planning meetings which include all levels of the trading partner organizations. Like S&OP programs, CPFR programs have clear calendars of weekly, monthly, quarterly and annual activities that govern the collaborative planning and execution cycle. The CPFR guidelines distinguish between executive-level responsibilities such as aligning trading partner goals and strategies and operational-level responsibilities such as ensuring that participants know each other's processes well enough to leverage complementary competencies.

At the tactical level, the CPFR guidelines describe routine weekly or monthly collaborative meetings (or conference calls) to review the results of initiatives and manage key exceptions. Designed for efficiency and effectiveness, these meetings can be relatively brief or extended, depending on the importance of the specific trading partner relationship. Suggested agenda items include 1) a review of current performance metrics for both sides, 2) managing current team initiatives with clearly assigned accountabilities and milestone deliverables, 3) identifying and resolving supply constraints based upon the collaborative forecast, and 4) a review of changes to the demand forecast based upon promotional planning, assortment planning or any other change to the demand plan. At a more strategic level, the CPFR guidelines describe quarterly or periodic planning meetings for each collaborative engagement that include cross functional managers and process owners to define and redefine the specific tactics and deliverables of the CPFR engagement. The CPFR guidelines also describe executive annual or semi-annual management meetings of the trading partners to define and redefine strategies, including their strategies to continuously improve performance.

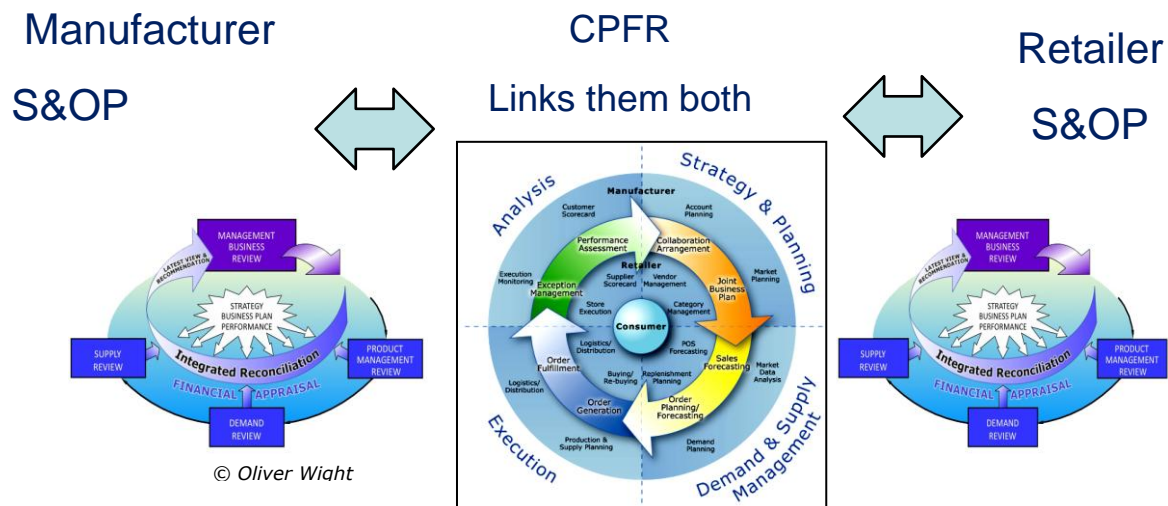
The development of large-scale CPFR programs has created the necessity to manage to tiered relationships for collaborative success. While a CPFR lead partner may universally require significant supply chain performance improvements and catalyze organizational change across many of its trading partners, resource constraints and ROI considerations make it obvious that there can only be a limited number of intense collaborations with key trading partners. These key relationships are called strategic alliance partnerships, and these are the relationships where we see the opportunity to link CPFR and S&OP.

4. Integrated Business Planning: Linking CPFR and S&OP

Most companies still operate with limited collaboration and fail to tap into the performance improvements that leading companies are achieving. Without collaboration, internal disciplines are disconnected and functions operate with their own operational forecast for the business. The time horizon for business execution visibility is short term. Day-to-day operations are not connected to strategic goals. Suppliers have only a limited view of future demand requirements. The retailer lacks category or market insights that could be provided by key suppliers, and each trading partner forecasts their needs independently. Past supply chain outages drive both suppliers and buyers to build buffer stocks to avoid risk, and without a shared view of consumer purchases, the planning systems of both retailer and supplier tend to build inventories based upon historical shipment variability that is not related to consumer buying patterns. When supply outages occur, the buyer-seller relationship becomes adversarial.



Both S&OP and CPFR are best practice collaboration processes. S&OP is a strategic business management process that aligns centers of functional excellence in a coordinated internal collaborative process. CPFR is a strategic business management process that aligns the complementary capabilities of trading partners in a coordinated external collaborative process. In the model below, the Manufacturer S&OP and Retailer S&OP internal collaboration processes are linked together using the CPFR external collaboration process.



How will the meeting and decision processes evolve in linking CPFR and S&OP between strategic alliance partners? What forms will the *discipline of getting things done* take in the new linked best practice model? We believe that one good answer is in applying the monthly review cycle and long-range planning horizon of S&OP to the collaborative engagement of CPFR. We provide an example of that application in the case study included in this guideline.

Successful implementation of an Integrated Business Planning process between two companies is a multi-phase journey that can take years to complete. Companies typically move through stages of evolution and may not choose to implement all steps or involve all business units at once. And it is common for companies to revise their collaboration strategies as they evolve. The Lowes – Whirlpool case study illustrates how two companies are collaborating to implement an Integrated Business Planning process by linking CPFR and S&OP.

5. The Case Study: Lowes Home Improvement and Whirlpool Corporation

Until several years ago, most of the communication between Lowe’s Home Improvement and Whirlpool Corporation was through their Merchandising and Sales organizations. The relationship could get strained at times - a result of each making decisions that affected the other one, but not discussing them until one of them felt the impact. Their collaboration processes have evolved over the last three years and they are currently in the early stages of running an Integrated Business Planning process. They did not get there overnight; it has been a journey through several phases of implementation.

Their partnership began with a focus on collaborative demand planning, concentrating primarily on order forecasting, with limited discussion of sell-thru or inventory. Exhibit 1 below illustrates the linkage between Lowe’s and Whirlpool at the operational level. During Stage 1, collaboration discussions were focused on the near-term horizon, typically less than three months, with very little consistent mid-range or long-term planning. Demand planning activities were more heavily dependent upon statistical forecasting, with very little enrichment applied to the forecast. There was limited visibility to each company’s go-to-market plan, which created disconnects in objectives. The two companies basically had independent business plans driving their individual sales and operational plans.

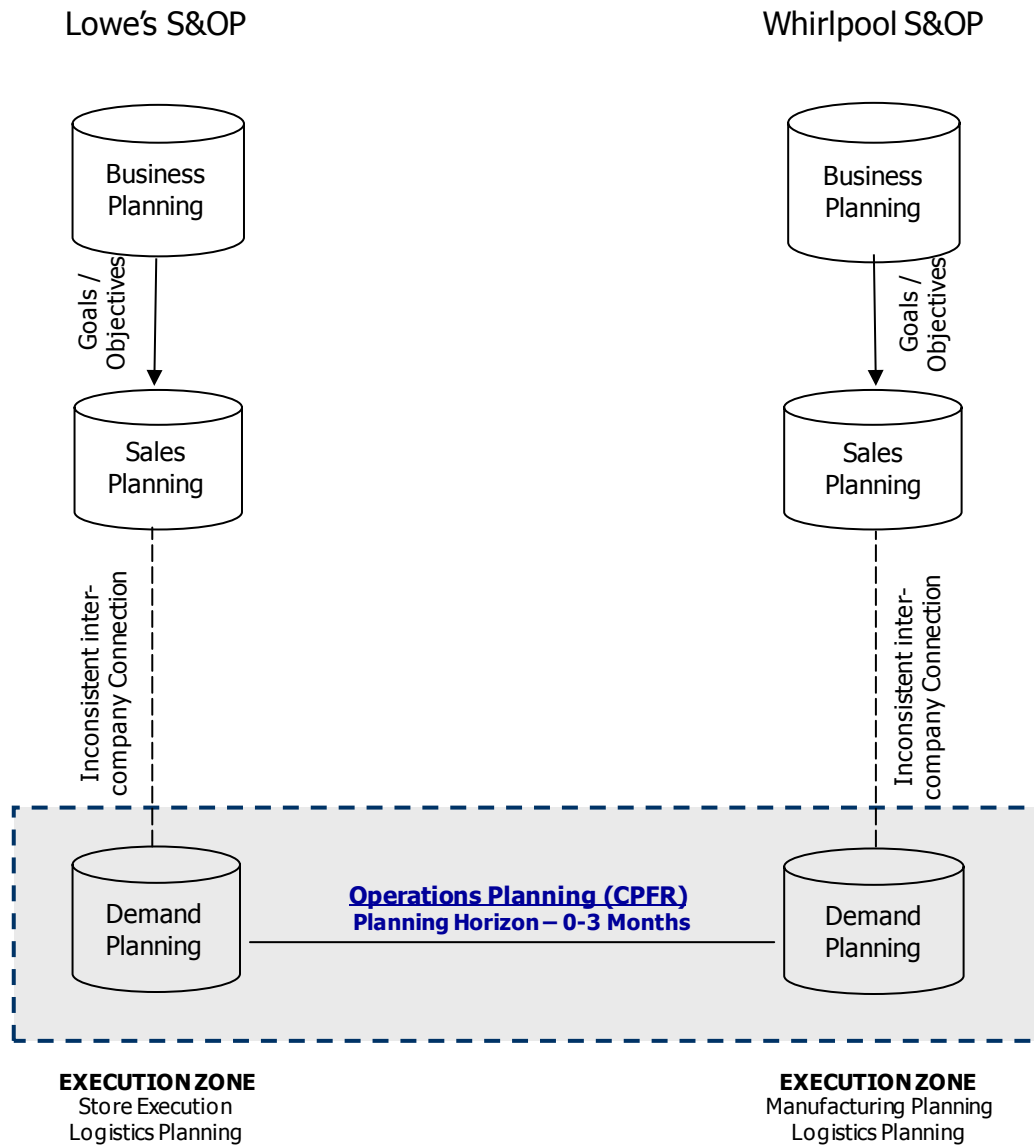


Exhibit 1: Lowe's/Whirlpool Stage I ... Traditional Demand/Supply Planning (2007 - 2008)

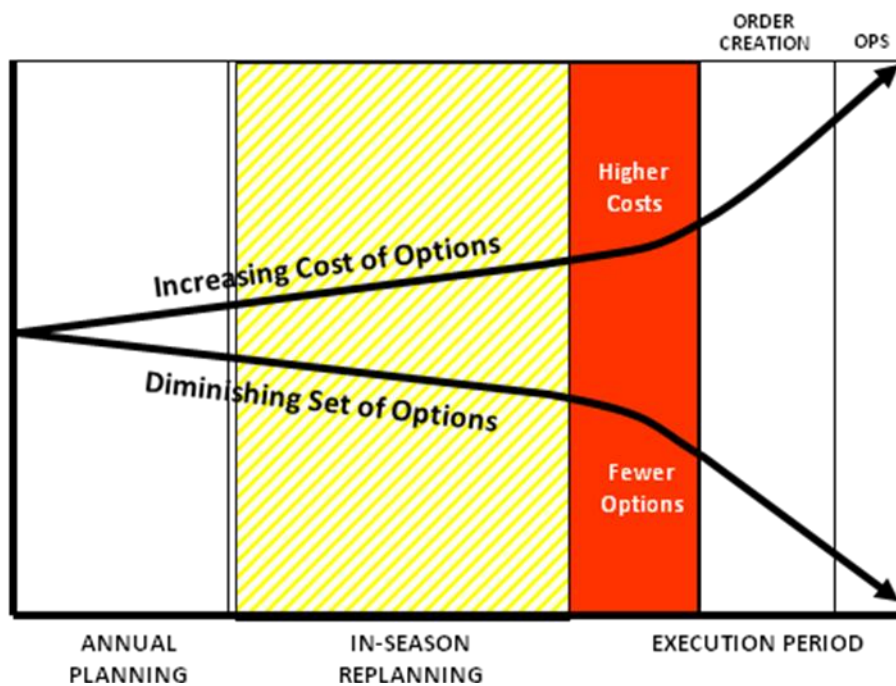
After stabilizing the collaborative demand planning process Lowe's and Whirlpool moved more towards supply planning. Lowe's initial focus was on recognizing the capabilities and limitations of Whirlpool's manufacturing divisions. Both companies worked to develop an understanding of each other's required target inventory levels, and the importance of product transition planning relative to inventory. This was pivotal because at this point, their supply chain organizations became actively involved with the sales and merchandising organizations.

Collaboration between a retailer and a manufacturer is often driven by traditional CPFR relationships that typically exist at the operational level of the organizations. Collaboration is focused on demand and supply planning at the item level, with forecasts reviewed between forecast teams. While traditional S&OP processes often exist within each company, collaboration at higher levels in the organization is sporadic and inconsistent. Such gaps in the CPFR linkages can often create sales plans that do not include future initiatives such as advertising, promotions and product transitions. As a result, operational planning in each independent organization is not based on an accurate demand

forecast. This limits forward visibility. When forward visibility is limited, and companies are not meeting business plans, their options for getting back on plan are fewer and typically more expensive.

Lowe's uses the graph below internally, to discuss the importance of planning and increasing forward visibility. Consider progressing through a season from left to right, going from the most forward-looking plans – for them it's their annual operating plans – to more tactical execution. The far right is the point in time where the product is moving and is close to landing at the stores to be sold.

As in most companies, when moving through the year, changes begin. The key point of this diagram is that when something happens that could cause you to get off plan, the more forward visibility you have, the more options are available and the costs of those options are lower.



As illustrated in Exhibit 2, during late 2008, Lowe's and Whirlpool made the decision to merge their collaboration effort with Whirlpool's S&OP process to provide the infrastructure necessary to extend the planning horizon beyond three months.

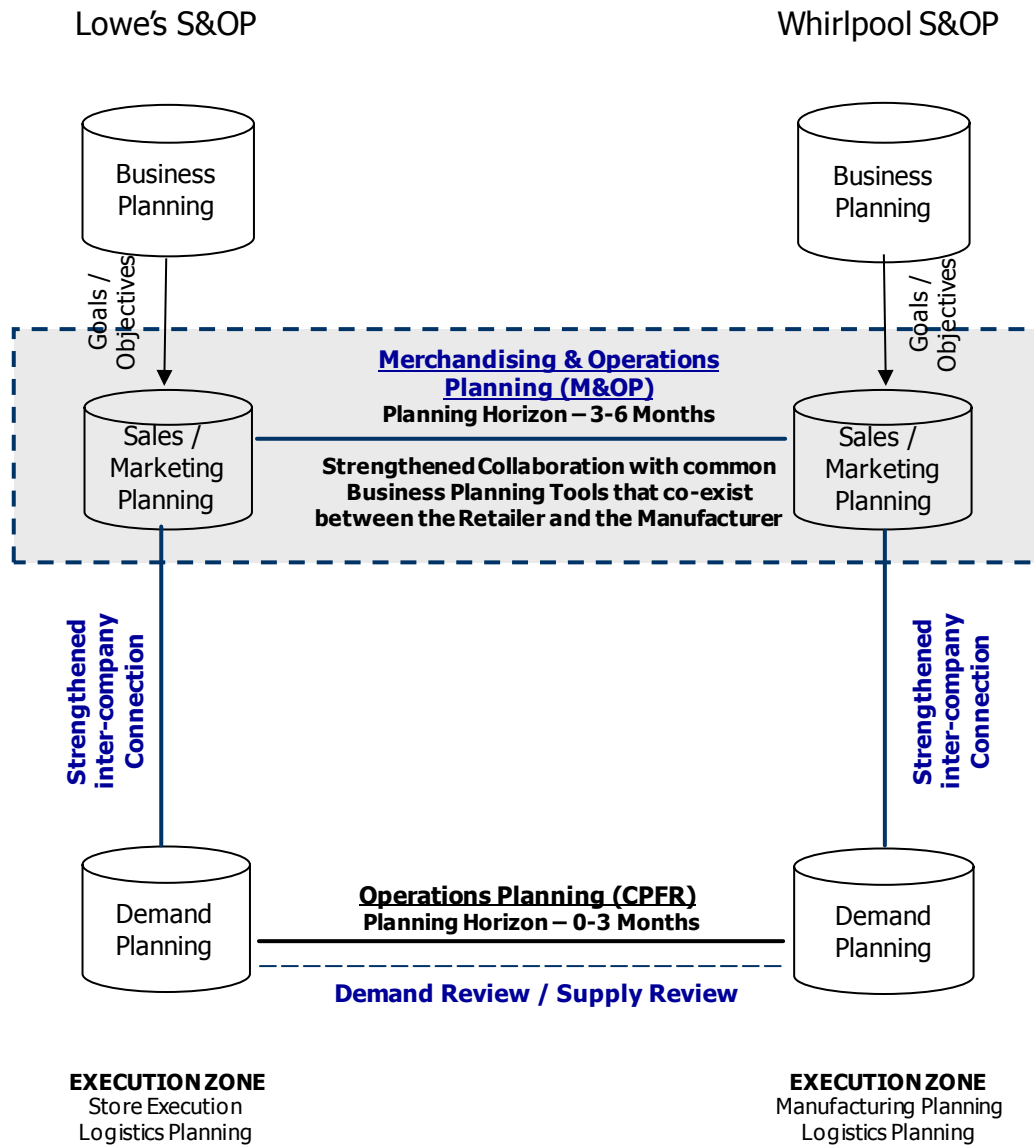


Exhibit 2: Lowe's/Whirlpool Stage II ... Integrated Sales & Operations Planning (2008 - 2009)

Lowe's and Whirlpool established relationships at the sales and marketing mid-management levels in the organizations, and collaboration linkages were created. At that point, the two companies really started to "change the game" by turning their attention to sales and marketing planning. Through structured Demand and Supply Reviews, their collaboration efforts drove business planning towards a single set of aligned forecasts and sales plans. Through a strengthened Product Management Review process they were able to focus their collaboration on promotions, product launch planning and special event planning. The end result was an integrated promotional calendar for each product category. The additional forward visibility in sales plans allowed the two companies to, at this point, extend their planning horizon to 3 to 6 months.

Lowe's and Whirlpool both realized another benefit from implementing a joint sales and marketing planning process. Their own internal collaboration efforts improved substantially due to the discipline required to run a joint sales and marketing planning process. They now have a rolling 12-month Collaboration Arrangement that serves to outline all collaborative planning activities with consistent involvement from middle management.

Lowe's and Whirlpool substantially improved their collaboration processes in 2008 and 2009; however, they had some remaining challenges. Their planning horizon was still too short and senior management was not routinely involved, and that limited their ability to run an Integrated Business Planning process, which was their goal.

Exhibit 3 below illustrates how Lowe's and Whirlpool modified their collaboration model during 2010 to allow them to run a fully-Integrated Business Planning process. Additional CPFR linkages have been created to help extend their planning horizon to 6 to 12 months including directly connecting the Operations Planning process with the Merchandising and Operations Planning process creating a closed-loop planning process. Notice that information flows from the top down. Driven by monthly leadership reviews with senior management, both companies achieved a more developed joint strategic planning process built around joint business objectives. These joint objectives were driven through each of their internal sales and operational planning processes. Such integrated objective planning is providing value-added direction for existing CPFR processes across the operations. In the event that Lowe's and Whirlpool need to adjust their joint plans due to changing business conditions, this model's longer planning horizon will provide the necessary forward visibility to adjust their plans with optimal impact on sales and profitability.

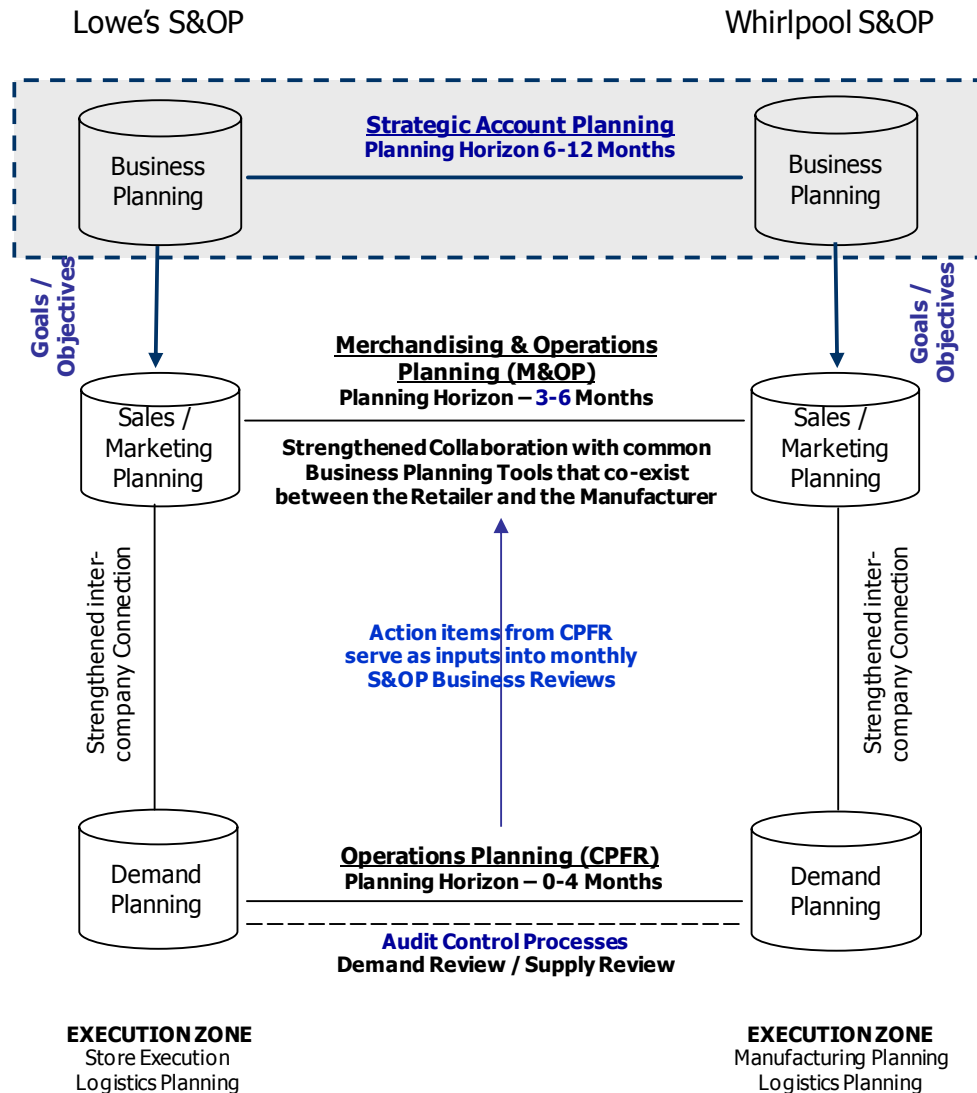


Exhibit 3: Lowe's/Whirlpool Stage III ... Integrated Business Planning (2010)

Lowe's and Whirlpool's collaboration model has been evolving since 2007 and has allowed the companies to realize improvements in several key metrics. Unit sales growth over the last three years is up 12 percent while overall inventory costs are down five percent. From a customer service perspective, percent of on-time shipments has improved by three points. They are expecting additional improvements in all three metrics during 2010. Lowe's and Whirlpool believe that a primary driver of these business improvements was the creation and evolution of their collaboration model.

In addition, both companies continue to create new relationship touch points across their broader organizations. By directly connecting operating teams together, both companies are driving faster and more efficient decision making. As CPFR continues to evolve within the framework of their integrated S&OP process, the companies will continue to realize benefits of increased flexibility and improved business predictability.

6. A Maturity Model for Collaboration Linking CPFR and S&OP

We have constructed a maturity model for collaboration linking CPFR and S&OP based upon emerging industry experience, our case studies, and academic research. Our maturity model tracks levels of focus and performance for both internal and external collaborative practice. While some companies may choose to develop their capabilities in internal collaboration before addressing improved coordination with key trading partners, others may have more developed CPFR practices than internal S&OP practices. The depiction of the evolution of collaborative capabilities in the maturity matrix may not represent a best fit for the experience of all firms, but it reflects our case study data showing that firms' capabilities in internal collaboration are correlated with their capabilities in external collaboration. The VICS CPFR guidelines note that organizations with rigid silos as between sales and manufacturing for a manufacturer or between buying and inventory management for a retailer are less likely to collaborate as trading partners because their internal disciplines are not aligned. Success in internal collaborations develops organizational capacity for trust and the skill sets for managing business processes across traditional silos that are necessary for effective external collaborations.

The first level of our Collaboration Maturity Matrix describes firms that are unlinked, that is, they have minimal internal and external collaborative practices. The management level for contact between buyers and sellers at Level 1 is between expeditors and customer service representatives. The capabilities of these firms are rooted in functional excellence. The time horizon for business planning is measured in weeks and many activities are reactive. There is little or no sharing of predictive information, and orders to suppliers are unplanned. The functional connectivity between supplier and buyer at this level is limited to inter-company sales. At Level 1, the measurements and rewards for performance are based upon functional rather than enterprise goals and resources are managed at the functional level. Score carding at this level is limited. A recent research study found that 25 percent of firms are firmly entrenched in Level 1 - that is, they have no current or near term plans to pursue collaborative practices.

The second level of our matrix describes firms that have an initial or basic approach to internal and external collaborative practices. The management level for contact between buyers and sellers at Level 2 includes demand planners. These firms have a focus on key enterprise processes that operate across corporate functions. The value proposition for the firm is its capability to execute key processes effectively and efficiently, and internal teams begin to drive decision making. The planning horizon for Level 2 companies is typically no more than three months. Predictive information is shared with suppliers in the form of point-of-sales data or possibly consumer demand forecasts, but the functional connectivity between buyers and suppliers may continue to be limited to inter-company sales. Performance is measured at process and company levels and resources are managed to insure process excellence. IT systems are linked internally, but technology linkages between buyer and supplier are not significant. Internal and shared score carding starts to develop at this level, but it is historically focused. About 60 percent to 70 percent of firms find themselves working their way through Level 2.

CPFR and S&OP Maturity Matrix

Type	Unlinked	Basic	Collaborative	Strategic
Management Level	Expeditors, Customer Service Reps	Planners	Directors	Executives
Focus	Functional Orientation	Process Orientation	External Collaboration	Collaborative Innovation
Time Horizon	0 – 3 Weeks (or Now)	0 – 3 Months	6-12 Months	18 - 24 Months Rolling
Product Management	None	None	Forecast volume at launch	Collaborative Design, Ideation, Lifecycle Management
Information Shared	Orders - No predictive information sharing	Sales Forecasts, POS	Order Planning, Promotion plans	Go to Market Plans, Network Plan, Portfolio Strategies, Industry Analysis
Financial Integration	None	None	Limited	Extensive
Functional Connectivity	Inter-Company Sales	Inter-Company Sales	Sales, Demand Planning, Category Management	Executive Leadership: Finance, Demand, Supply, Marketing, Sales, CEO
Metrics	No / Limited Score carding	Fill Rate, Turns (Historically Focused)	Forecast Accuracy, Revenue (Near Term/ Historical Focus)	Market Share, Revenue, Profitability, Perfect Order Attainment (Future Focus /Gap Oriented)
Corporate Plan Integration	None	None	Marginal	Significant Plans are Interdependent and fully integrated
Technology	Phone, E-Mail	E-Mail	Spreadsheets	Enterprise class solutions that interoperate

The third level of our matrix describes firms that are beginning to engage in meaningful external collaborations. The management level for contact between buyer and seller at Level 3 includes Directors. Cross-enterprise teams become common at this level. For companies in Level 3, the business model and value proposition focus on customer-responsive activities. Collaborative goals begin to bring strategic partners' core capabilities together. The planning horizon for Level 3 companies may have moved out to 6 to 12 months for internal planning, but external collaborative planning may still have a more limited time horizon. Shared predictive information begins to be more robust at level 3 and includes promotional plans and order plans and the functional connectivity between key buyers and sellers expands to include category management. Performance measures include predictive elements such as forecast accuracy and revenue plans. IT systems begin to be linked, but the medium of exchange may be spreadsheets. Some 5 to 15 percent of firms are traversing Level 3.

The fourth level of our maturity matrix describes firms that have achieved a robust degree of internal and external collaboration. These firms have transformed their value chain into an engine of

innovation fueled by executive leadership and collaborative teams. The management level for contact between buyer and seller at Level 4 includes senior executives. Collaborative goals blur organizational borders to leverage and continuously improve complementary capabilities. The planning horizon for Level 4 companies has moved out to 18 to 24 months. Shared predictive information becomes more strategic and includes go-to-market plans and portfolio strategies. Strategic alliance partner companies share significant plans that are integrated and interdependent. Functional connectivity includes marketing and finance. Performance measures encompass market share and profitability with a future focus, what if scenario and gap analysis. Resources – information, people and technology – are proactively shared. Enterprise technology solutions support interoperability. Performance measures promote collaboration and continuous innovation throughout the network and risks and rewards are shared. The research study found that none of the interviewees had achieved this goal, nor could they identify a company that inhabits this space. Nonetheless, some managers were committed to raising their companies to Level 4. A few seem to possess the vision, energy and determination to achieve this goal.

The critical elements of success in moving from a functionally focused organization that has limited collaboration with trading partners to a strategically focused organization pursuing long range alliances with key trading partners are:

1. A clear multi-year strategic plan with key assumptions that are planned and re-planned for an extended rolling horizon in each planning cycle.
2. As the planning horizon is extended, senior managers become the process owners driving the strategies and execution of the business. At the strategic level the process owners are executives.
3. A cycle of structured business reviews clarifies the roles, responsibilities and accountabilities of all participants and empowers participants to link daily business execution to strategic goals.
4. Clear accountabilities and a discipline of getting things done builds a foundation of trust and leads to high-performing work teams that deliver competitive advantage.
5. Collaborative teams that cross functional and organizational boundaries produce more effective and efficient work.
6. Aligned incentives and shared risks and rewards drive group performance and responsiveness.
7. Enabling technology allows rapid and accurate re-planning and reconciliation.
8. Strategically focused firms collaborate with strategic alliance trading partners so that two companies are operating off one plan.

Ultimately, an Integrated Business Planning process requires that we have a plan, not just a forecast. A forecast is a prediction of a future condition or occurrence. A plan is a scheme or method of acting, doing, proceeding or making, developed in advance. A company's strategic plan is the sum of the actions a company or value chain takes to create demand and satisfy that demand in a particular market. Some organizations resist the idea of forecasting, let alone planning. They believe it is impossible to predict the future accurately, so why bother? This attitude creates an unrealistic expectation of planning. Consider Peter Drucker's view on predicting the future: "To try to make the future happen is risky; but it is a rational activity. And it is less risky than coasting along on the comfortable assumption that nothing is going to change."

"Strategic planning does not deal with future decisions. It deals with the futurity of present decisions. Decisions exist only in the present. The question that faces the strategic decision-maker is not what his organization should do tomorrow. It is, what do we have to do today to be ready for an uncertain tomorrow?" – Peter Drucker

7. The Role of Technology

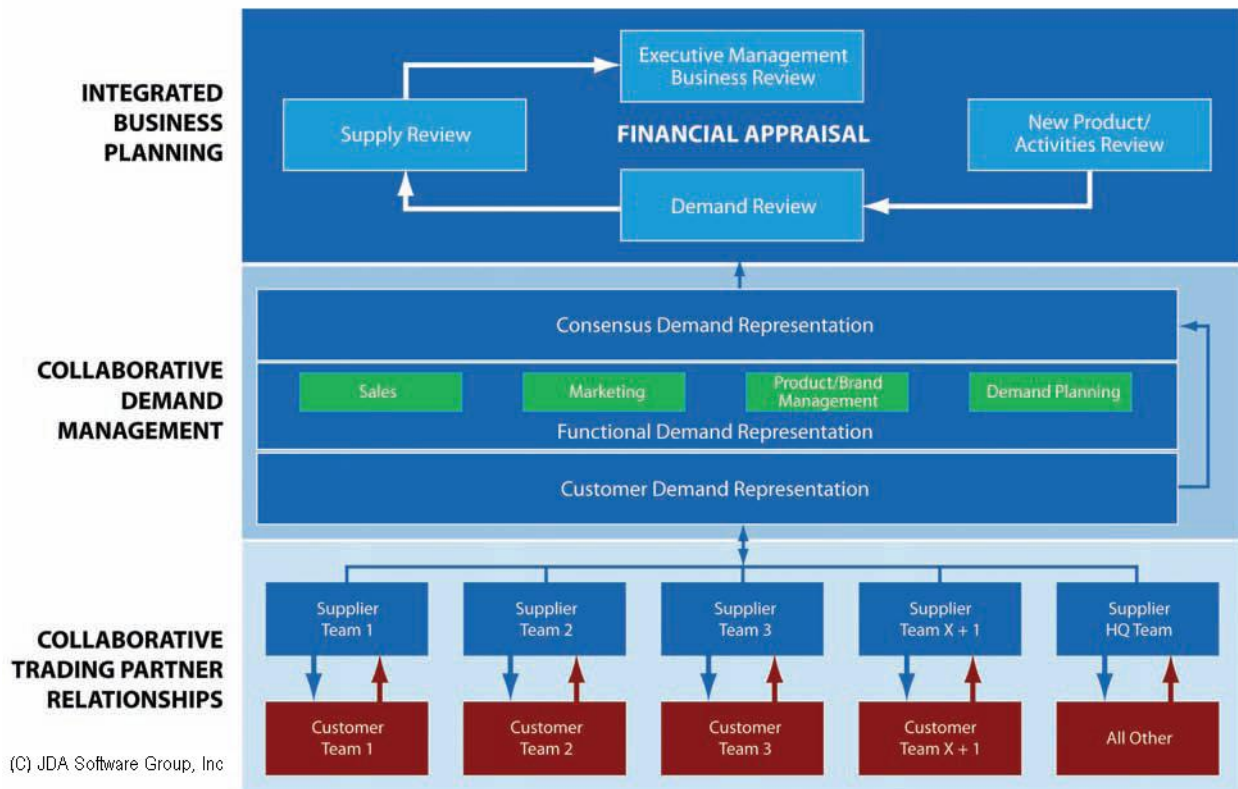
Technology plays a significant role in the linking of CPFR® to S&OP. While both processes can be executed manually in a pilot mode, it is important to understand the value that technology can bring to companies interested in formally linking the two processes together as part of their integrated planning framework. Most importantly, technology enables companies to scale their programs beyond a subset of planning items or trading partners. Manufacturers need critical mass demand data to shift from shipment-based consensus planning within S&OP to an orientation of planning on demand signals further down the supply chain.

Significant transformations have occurred in the marketplace that make the connection of CPFR® and S&OP more attainable and valuable, including the recent deployment of reliable time-phased order planning capabilities by several critical mass retailers. These new capabilities enable retailers and wholesale distributors to provide a view of what they plan to order beyond a single lead time. Importantly, these order projections start with the demand signal at the shelf or web portal and are translated through the supply chain network, incorporating all of the logistics constraints of product flow. Likewise, retailers and wholesale distributors benefit by having a better understanding of supply constraints when they scale their collaborative programs across a large share of their supplier base.

Technology also enables trading partners to accelerate the collaboration between internal functional stakeholders and external trading partners. Monitoring capabilities within software solutions provide alerts when plans are not synchronized against specified business rules to address issues at a faster pace than is possible with manual processes or spreadsheets. Exception management capabilities also enable companies to handle a larger scope of items as review and discussions center on planning dimensions that are outside of a pre-defined threshold. Reviewing the ongoing collaborative plan by exception removes the need to manually review every item or product family which is not cost effective and becomes unmanageable as programs scale in size.

A key role of technology in linking the process is to provide visibility and synchronization across multiple stakeholders working on coming to consensus on a single plan. The linked CPFR® to S&OP model will be one of the most cross-functional processes in the supply chain.

Integrated S&OP and CPFR Framework



Consider the graphic above. Starting at the bottom, companies have established collaborative trading partner initiatives with their key customers and suppliers to build joint value by collaborating on forecasts, new product and replenishment plans. These external insights can improve the collaborative demand planning processes that are internally executed across functions within a company (See second layer of graphic – Collaborative Demand Management). After a consensus demand plan is created that incorporates the key insights from customer and supplier relationships, it becomes a key input into the long-range Integrated Business Planning process for a company to synchronize its demand, supply, new product and financial plans over a time horizon that links to corporate strategy – typically 18 to 24 months or more on a rolling basis. (See top layer of Integrated CPFR and S&OP Framework graphic.)

The stakeholders in the above figure want to see the integrated time-phased plan in their own language and at varying levels in a hierarchy. For example, demand planning teams and customer service teams may want to review data at a very low level of granularity – perhaps at the item/store-level intersection. A production planner may only be interested in family-level demand on a key resource within the plant. Senior level executives will want a financial view of the plan at higher levels of aggregation for monitoring plan against budget and plan synchronization with longer-term objectives and strategy. Technology solutions enable the varying stakeholders to view and synchronize the time-phased plan in the language and hierarchy level with which they are most comfortable and accountable.

Technology provides key stakeholders with capabilities not available in spreadsheet and manual process environments. For example, scenario planning and “what if” analysis on varying trading partner strategies can help companies better understand the trade-offs of varying CPFR[®] and S&OP decisions within the extended supply chain. “What-if” analysis assists companies wishing to close budget or capacity gaps over extended time horizons. When gaps are discovered, new product, promotional and/or pricing simulation can assist with closing gaps more effectively. Scenario analysis

provides a financial view of different scenarios and helps planners determine the feasibility of various alternatives. In addition, holistic S&OP solutions incorporate statistical forecasting and time-phased planning capabilities that calculate a statistical forecast, enhance the statistical forecast with functional input from stakeholders, and translate the demand plan into time-phased order plans for distribution, deployment, transportation and manufacturing planning.

Both S&OP and CPFR® have a cadence and prerequisite activities that must occur prior to the completion of later steps in the overall process. For example, within S&OP, it is common to complete a consensus demand review prior to reviewing the supply organization's capability to fulfill demand requirements. Likewise, within CPFR®, it is common to complete and review the joint business plan prior to moving to the sales forecasting and order-planning steps of the process. When companies deploy an integrated S&OP to CPFR® framework, the number of steps and coordination of activities across functions and resources will increase. Technology can play an important role by assisting companies with automated workflow to define the "To Be" process, make sure process and activity owners clearly understand the action items they are responsible for completing, and provide alerts when critical tasks are in jeopardy. Importantly, automated workflow can make sure that critical decision items (supported by scenarios) are elevated to executive stakeholders so the company can satisfy their consumers while simultaneously meeting the financial objectives of their company.

8. Conclusion

The path taken by Lowe's and Whirlpool leveraged the strengths of both the CPFR and the S&OP models. The S&OP model provided the regimen of a series of coordinated business reviews each month culminating in an executive review by those responsible to authorize the plan. The coordinated business review process of S&OP results in more than a forecast. It implies intentionality and a commitment and accountability to manage a plan of action that will deliver the desired results. All participants sign up to the plan. Also from S&OP came a commitment to push the planning horizon out in time. A longer-term planning horizon connects today's choices for the organization with the long-term strategic goals of the firm. From the CPFR model came the emphasis on engaging strategic alliance partners in a firm's planning process. Also from the CPFR model came the regimen of utilizing final customer sales to create a multi-echelon demand plan that ties a robust order plan directly to planned customer purchases. From the CPFR model also came Whirlpool's realization that they needed to expand the time horizon and intensify the frequency of communication with Lowe's to gain earlier knowledge of when Lowe's buying intentions were changing. Similarly from the CPFR model, Lowe's came to the realization that they needed to expand the time horizon and intensify the frequency of communication with Whirlpool about their supply plans, product development and go-to-market strategies. From the CPFR model both trading partners developed a commitment to deliver to promise and to invest in the relationship to generate long-term, innovative solutions. The regimens taken from both the S&OP model and the CPFR model significantly led to trust building between the trading partners.

The Lowe's and Whirlpool case study provides a clear progressive implementation model that invites imitation. These are the most significant high-level steps in the implementation: 1) focus on the relationship with a strategic alliance partner, 2) extend the time horizon out, 3) involve more functions (buying, marketing, product development) in the process, 4) drive decisions from an assumption-based plan and hold people accountable to the plan.

S&OP describes an executive management process that puts the executive team in charge, that enforces alignment and accountability around strategies and assumptions, and that provides a logical step process of planning meetings at which the participants get the work done. CPFR provides similar planning recommendations and adds a focus on engaging strategic alliance trading partners in the planning process. When these two best practice standards are employed, Integrated Business Planning delivers improved financial performance that benefits the entire value chain.

Suggestions for further reading on this subject:

- VICS, "Collaborative Planning, Forecasting and Replenishment (CPFR[®]): an Overview," May 2004
- VICS, "Implementing Successful Large Scale CPFR[®] Programs & Onboarding Trading Partners," August 2007
- George E. Palmatier and Colleen Crum, *Enterprise Sales and Operations Planning: Synchronizing Demand, Supply and Resources for Peak Performance*, J. Ross Publishing, January 2002.
- Stanley E. Fawcett, Gregory M. Magnan and Jeffrey Ogden, *Achieving World-Class Collaboration: Managing the Transformation*, CAPS Research, The Institute for Supply Management and the W.P. Carey School of Business at Arizona State University, 2007.

About VICS

Since 1986, VICS, the Voluntary Interindustry Commerce Solutions Association, has worked to improve the efficiency and effectiveness of the entire supply chain. VICS is made up of companies who have proven that a timely and accurate flow of product and information between trading partners significantly improves their competitive position. VICS' Committees continue to build on their legacy of supply chain excellence through continuous improvement of existing supply chain processes, development of new collaborative commerce business processes and effective implementation of e-Commerce standards.





LINKING CPFR AND S&OP: A ROADMAP TO INTEGRATED BUSINESS PLANNING

The critical elements of success in moving from a functionally focused organization that has limited collaboration with trading partners to a strategically focused organization pursuing long range alliances with key trading partners are:

1. A clear multi-year strategic plan with key assumptions that are planned and re-planned for an extended rolling horizon in each planning cycle.
2. As the planning horizon is extended, senior managers become the process owners driving the strategies and execution of the business. At the strategic level the process owners are executives.
3. A cycle of structured business reviews clarifies the roles, responsibilities and accountabilities of all participants and empowers participants to link daily business execution to strategic goals.
4. Clear accountabilities and a discipline of getting things done builds a foundation of trust and leads to high-performing work teams that deliver competitive advantage.
5. Collaborative teams that cross functional and organizational boundaries produce more effective and efficient work.
6. Aligned incentives and shared risks and rewards drive group performance and responsiveness.
7. Enabling technology allows rapid and accurate re-planning and reconciliation.
8. Strategically focused firms collaborate with strategic alliance trading partners so that two companies are operating off one plan.