Combining CPFR with S&OP to Attain Optimum Customer Service

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Collaboration Sought

Faced with the twin realities of global competition and the relentless drive to reduce costs, suppliers and retailers in the Fast Moving Consumer Goods (FMCG) areas concluded that the time-honored adversarial approach to doing business was no longer satisfactory. Slowly but surely, companies adopted differing strategies such as Schedule Sharing and Vendor Managed Inventory (VMI) to better coordinate their supply chain activities. Both techniques were designed to mitigate the weaknesses inherent in forecasting. With VMI, the supplier assumed the responsibility of replenishing the customer's inventory. Meanwhile, Schedule Sharing would eliminate the need for forecasting altogether by substituting the suppliers forecast with the retailer's purchase requirements direct from the retailers information system.

These techniques were acceptable for many companies. However, for others there were weaknesses with both techniques that left them searching for alternative approaches. Inventory often comprised the second or third largest asset on the balance sheet, and some retailers felt "out-of-the-loop" with management of their own inventory with VMI because the supplier took such a lead role. Suppliers complained about the added burden that VMI placed upon them, since they were now effectively the retailers Materials Management department. Schedule Sharing also found a few detractors, particularly among suppliers. While Schedule Sharing helped eliminate short-term surprises in the form of large, unexpected orders, suppliers still complained that the retailers would often schedule promotions during times the supplier had limited capacity or raw material supply problems. Suppliers wanted more long-range visibility into the retailers plans, and retailers wanted the assurance that when they scheduled promotions the product would be there.

Several large American-based multinational companies including Wal-Mart, Proctor & Gamble (P&G), Sarah Lee and Oracle embarked upon a new method in the late 1990's which they called Collaborative Planning, Forecasting and Replenishment (CPFR). CPFR was based on the concept that both retailer and supplier were responsible for supply chain success. Rather than shift the burden of replenishment to either customer or supplier, the two would routinely collaborate on not only near term plans, but also long-term promotional planning. This process would begin with a definitive collaborative agreement between the two companies at the highest levels, normally including the CEO or one of his or her top lieutenants. The companies would develop a joint business plan aimed at coordinating their activities. The crux of CPFR was the monthly collaboration process between customer and supplier that will be described in the next section.

The Nine Steps to Collaborative Planning, Forecasting And Replenishment [1]

Step 1 Develop Front-End Agreement

The first step in CPFR is the most critical and typically the most time consuming step. During this step, the rules and methods of cooperation between customer and supplier are established. The objectives of both business partners, along with the resources that will be needed to successfully carry out the CPFR process are spelled out. Developing the Front-End Agreement consists of ten individual steps:

1. **Develop CPFR Mission Statement**—this develops a common basis of understanding and cooperation between the business partners.
2. **Determine CPFR Goals and Objectives**—concrete, measurable goals and objectives are agreed to. Business practices and criteria for exceptions for forecasting and purchasing are established.
3. **Determine Competencies, Resources and Systems**—a clear determination of the competencies, resources and system capabilities of both parties is critical. Which functional areas of each business partner will manage the process and what is their level of experience with CPFR? Are current systems compatible, or will improvement need to be implemented by one or both partners?
4. **Define Collaboration Points and Responsible Business Functions**—map the collaboration points, highlighting the key functional business units of each partner.
5. **Determine Information Sharing Needs**—CPFR demands that both parties share a variety of inventory, forecast and promotional data. The frequency and medium of the exchange and the allowance for response time when exceptions are identified are established.
6. **Define Service and Ordering Commitments**—the nature of ordering and delivery commitments is established, including when and how does a forecast projection become a firm order.
7. **Determine Resource Involvement and Commitments**—each business partner will establish the amount of time that individual employees and departments will commit to the CPFR process.
8. **Resolution of Differences Between Partners in the CPFR Process**—a dispute resolution process is established.
9. **Regular Review Cycle for CPFR Agreement**—a periodic review of the CPFR agreement is established to benchmark the success of the endeavour and modify individual process steps as deemed necessary.
10. **Publish Front-End Agreement**—the jointly composed agreement is binding on both parties and by publishing it to the key business functions in each company, we can ensure that both companies are moving forward with a clear understanding of the role that they will play.

Step 2 Create Joint Business Plan

After reviewing the corporate strategies of the two companies, the next step is to determine one business plan that is acceptable to both. Which product groups will be part of the CPFR arrangement and which will not? Agreements are reached on such things as minimum order quantities, lead times and capacity limitations.

[1] Seifert, Dr Dirk, Collaborative Planning Forecasting and Replenishment – How To Create A Supply Chain Advantage, AMACOM Books, 2003

Step 3 Create Sales Forecast

Either one party generates a sales forecast that is shared with the other or both parties generate forecasts that are compared. The retailers POS (point of sale) data and promotional plans are used as the basis of the forecast.

Step 4 Identify Exceptions for Sales Forecast

Based on previously agreed upon guidelines, identify items that differ more than a certain percentage, for example, fifteen or twenty percent, in the expectations of the partners. This often occurs when one partner and not the other knows about a promotion.

Step 5 Resolve / Collaborate On Exception Items

The two companies decide how to handle the exceptions—in the case of a promotion known to the customer and not the supplier, can the supplier handle the additional volume or should the dates of the promotion be changed? This step depends on real-time communication between the key functional units of each party.

Step 6 Create Order Forecast

Based on the output of Step 5, a time-phased, item and volume-specific replenishment forecast is developed after the forecast is compared to the customers' inventory data.

Step 7 Identify Exceptions For Order Forecast

Any exceptions that fall outside of the front-end agreement, such as taking up too much of the suppliers' capacity, are identified.

Step 8 Resolve / Collaborate On Exception Item

Any exceptions are resolved by real-time communication between the two parties.

Step 9 Order Generation

In this final step, the modified order forecast becomes the firm replenishment order.

New Challenges Uncovered

CPFR proved to be a great success, as evidenced by the fact that the process has been adopted by hundreds of major American retailers, major FMCG suppliers and is rapidly being adopted by European, Asian and Australian companies. As numerous FMCG customers and suppliers improved their collaboration skills to enhance the benefits they were drawing from CPFR, many began to notice that they were hitting an unexpected stumbling block, their own internal management team. Many suppliers discovered that it was easier to convince their customers about the benefits of collaboration than it was their own managers! Conditioned to compete with each other as they fought to climb the corporate ladder, managers were not eager to share honest information with their colleagues. Many suppliers found the gains they attained from the increased customer cooperation and information nullified internal bickering and turf wars. To combat these tendencies and maximize the benefits of CPFR, suppliers turned to Sales & Operation Planning (S&OP).

Using Sales & Operations Planning to Break Down Internal Barriers[2]

One problem that many companies have faced was that the Finance, Sales & Marketing and Operations groups all operated with different agendas. These agendas could often be traced to how the different groups were compensated. Sales and Marketing were typically compensated for increasing the top line (sales), while Operations was rewarded for minimizing costs and Finance was seen as the guardian of the bottom line (profit). As a result, all three groups not only operated with different agendas, but different goals as well. Sales & Marketing would take an optimistic approach, assuming that each new product would be an instant best seller and forecasting accordingly. Operations, having been burned in the past with overly optimistic forecasts and the resulting problem of having to dispose of the excess inventory that resulted, would base production on a much more conservative plan. Meanwhile, Finance would prepare profit forecasts that also tended to be conservative, knowing that Executive Management and outside investors would be much more accepting of upside surprises than downside. With the three groups each operating in accordance with a different set of goals and objectives, it was easy to understand how the efficiencies gained with CPFR would be lost internally. This led many companies to adopt Sales & Operations Planning (S&OP) to achieve better internal coordination.

Let's examine the 5-step approach to S&OP.

Step 1 – Run Sales Forecast Reports

- Key Players
  - Demand Planning
- Key Activities
  - Run sales forecasting reports
  - Update sales & inventory information for the month just ended
  - Provide Sales & Marketing with statistical forecasting information needed to revise forecast and a comparison of last months actual sales Vs. forecast
  - Provide Operations with last months actual production and inventory results Vs. goals
- Timing – a few days after month-end
- Output – Statistical forecast reports, last month's sales, production and inventory results against plan

Step 2 – Demand Planning Process

- Key Players
  - Demand Planning, Sales, Marketing
- Key Activities
  - Sales & Marketing review last months actual sales data and must explain large variances from plan

[2] Thomas F. Wallace & Robert A. Stahl, Sales & Operations Planning – The How-To Handbook, 3rd Edition, T.F. Wallace & Company, 2008

        - New or lost customers?
        - Promotions doing better or worse than expected?
        - Shortage of products?
        - New products doing better/worse than expected?
        - Document corrective actions being put in place to minimize future occurrences
    - Sales provides updates regarding customer promotional plans
    - Marketing provides updated information regarding New Product plans
    - Sales & Marketing work with Demand Planning to update Forecast
- Timing – middle of first week of month through end of second week
- Output – Revised Sales forecast (also called 1st Pass Spreadsheets)

Step 3 – Supply Planning Process

- Key Players
    - Demand Planning, Operations (Manufacturing, Distribution or both), Inventory Management, Purchasing
- Key Activities
    - Operations reviews last months actual production and inventory data and must explain large variances from plan
        - Supply problems?
        - Machine/production problems?
        - Capacity/manpower problems?
        - Customers accelerating/delaying major orders?
        - Document corrective actions being put in place to minimize future occurrences
    - Operations provides updates to capacity, manpower and supply constraints
    - Operations reviews 1st pass spreadsheets from Marketing and highlights potentials problems
- Timing – end of first week of month through middle of third week
- Output – Revised Operations Plans (also called 2nd Pass Spreadsheets)

Step 4 – Pre-S&OP Meeting

- Key Players
    - Department Heads of Demand Planning, Sales, Marketing, Operations, Inventory Management, Purchasing
- Key Activities
    - Managers review 1st & 2nd Pass Spreadsheets
    - Resolve differences to enable one set of recommendations to go to Executive Management
        - Determine any areas where agreements can not be met
        - Determine how to present areas of disagreement to Executive Management
    - Prepare Agenda for Executive S&OP Meeting
- Timing – End of third week
- Output – Revised S&OP, Agenda for Executive S&OP Meeting

Step 5 – Executive S&OP Meeting

- Key Players
  - Top Company Executives, Department Heads of Demand Planning, Sales, Marketing, Operations, Inventory Management, Purchasing
- Key Activities
  - Review last months S&OP against metrics
  - Review status of New and Proposed products
  - Review potential new/lost customers
  - Review major problems/opportunities
  - Review/approve changes on each product family
  - Review/approve changes in Product/Procurement rates that have a major impact
  - Review/approve decisions made in Pre-S&OP meeting
- Timing – During 4th week
- Output – **One** Sales & Operations Plan

Combining CPFR with S&OP

In order to combine CPFR with S&OP, tight coordination and aggressive adherence to the monthly schedule were necessary. In our case, the Demand Planning group was in charge of both processes. In order to accomplish synchronization of the two different processes, we adopted an approach whereby each Demand Planner was given responsibility for certain customer groups in the CPFR process, in addition to participating in joint coordination of S&OP as illustrated in the following table.

Demand Planner	CPFR Responsibility	S&OP Joint Responsibility
A	Grocery Chains	Marketing Forecasts Promotions New Products Operations Planning
B	Drug Store Chains	
C	Mass Merchants	
D	Warehouse Clubs	

The importance of the adherence to schedule is demonstrated by the following schedule.

Week	CPFR Activities	S&OP Activities
1	▪ Run sales forecasting reports ▪ Review forecast accuracy reports by Demand Planner ▪ Review prior months actual customer sales Vs. previous forecast to identify major variances ▪ Conduct teleconferences with major customers to identify reasons for major variances and potential future impacts ▪ Review CPFR rolling 6 month forecast variance report by customer within each customer group	▪ Update sales & inventory information for the month just ended ▪ Provide Sales & Marketing with statistical forecasting information needed to revise forecast and a comparison of last months actual sales Vs. forecast ▪ Provide Operations with last months actual production and inventory results Vs. goals
2	▪ Conclude teleconferences with major customers to identify reasons for major variances and potential future impacts ▪ Begin teleconferences with major customers to discuss major variances in CPFR 6 month forecast reports	▪ Sales & Marketing review last months actual sales data and must explain large variances from plan ▪ Sales provides updates regarding customer promotional plans ▪ Marketing provides updated information regarding New Product plans ▪ Sales & Marketing work with Demand Planning to update Forecast ▪ 1st Pass Spreadsheet completed
3	▪ Conclude teleconferences with major customers to discuss major variances in CPFR 6 month forecast reports	▪ Operations reviews last months actual production and inventory data and must explain large variances from plan ▪ Operations provides updates to capacity, manpower and supply constraints ▪ Operations reviews 1st pass spreadsheets from Marketing and highlights potentials problems ▪ 2nd Pass Spreadsheet completed
4		▪ Managers review 1st & 2nd Pass Spreadsheets ▪ Resolve differences to enable one set of recommendations to go to Executive Management ▪ Prepare Agenda for Executive S&OP Meeting ▪ Facilitate Executive S&OP Meeting ▪ S&OP Approved

The blending of the CPFR and S&OP processes, along with the constant pressure on Sales, Marketing, Operations, Demand Planning and our CPFR partners to justify and learn from major variances contributed to a rapid rise in forecast accuracy. In only 10 months, forecast accuracy improved from 27% to 70%. Independently, CPFR and S&OP can lead to major advances in supply chain efficiency. Together, they form an extremely potent combination.

About the Author

Mark K. Williams, CFPIM, CPSM, CSCP, is President of the Williams Supply Chain Group, Inc., a consulting firm specializing in supply chain management and training.

Mark has over 20 years of industry experience in various roles including Director of Demand Planning, Senior Manager of Materials, Plant Manufacturing Manager, Distribution Center Manager, Corporate Internal Auditor and Production Control Manager.

He is an APICS Certified Fellow in Production and Inventory Management (CFPIM) and a Certified Supply Chain Professional (CSCP). He has also earned the Certified Professional in Supply Management from the Institute of Supply Management (ISM). He has many years of experience teaching APICS certification review courses and developing customized inventory and supply chain management courses for corporate clients. He has spoken at numerous APICS International Conferences in the United States, three European Supply Chain conferences, two Australian Logistics & Supply Chain Conferences, a South African Supply Chain Conference, as well as numerous local and regional supply chain meetings. In addition delivering seminars in 47 of the 50 United States, Mark has delivered seminars for clients in South Korea, Singapore, Malaysia, Indonesia, Bulgaria, France and Australia.

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