

## Collaborative Planning, Forecasting and Replenishment

The importance of communication and collaboration can never be stressed enough in a supply chain. A well-documented example is of Volvo and green cars. In the 80's, Volvo had a growing inventory of green cars. To reduce this growing inventory, a promotional campaign was initiated which turned out to be a huge success. The production department saw the sales of green cars pick up and assuming that demand has increased, they started producing more green cars. This again resulted in a growing inventory of green cars and negating the entire motive behind the campaign. This example shows that if different entities collaborate and communicate in their functioning, the situation is always much better. A similar issue is faced in supply chains where lack of communication results in increasing demand variability through the supply chain popularly referred to as the "Bullwhip Effect". The point here is that the left hand HAS to know what the right hand is doing. Collaborative Planning, Forecasting and Replenishment (CPFR®) is an attempt to address this issue.

Collaborative Planning, Forecasting and Replenishment (CPFR®) is a business practice that combines the intelligence of multiple trading partners in the planning and fulfillment of customer demand. The Voluntary Interindustry Commerce Standards (VICS) Association published guidelines for implementing CPFR in 1998 (updated in 2001) and it has been in various stages of implementation at different companies since then.

CPFR is one of a series of supply chain initiatives like JIT (Just-In-Time), ECR (Efficient Customer Response) and VMI (Vendor Managed Inventory) driven by organizations to make their supply chains more responsive and keep all the supply chain members in tune with the end customer demand, both in terms of the product and its volumes. By ensuring end-to-end communication, the occurrence of the "Bullwhip Effect" is prevented thus reducing inventory levels across the chain. It also allows partners to visualize the bigger picture in terms of the entire supply chain rather than their enterprise alone. As partner collaboration is initiated right from the planning till the replenishment stage, the supply chain as a whole is in a better position to respond to exceptional circumstances making it a more proactive entity rather than a reactive one. On a more abstract level, CPFR aims at creating an environment of trust between trading partners where the benefits of sharing information are known. The role of CPFR in various stages of supply chain activity is aptly represented in the figure below.



### Related Links

[www.vics.org](http://www.vics.org)

[www.itresearch.forbes.com](http://www.itresearch.forbes.com)

[www.industrydirections.com](http://www.industrydirections.com)

### About DecisionCraft Analytics

We provide decision-making solutions to improve operational efficiency and business responsiveness. Our consulting services employ our strengths in industry knowledge, conceptual rigor, and information technologies. Developed using concepts from decision theory; our solutions use robust optimization, simulation, and statistical engines adapted to our client's focus areas.

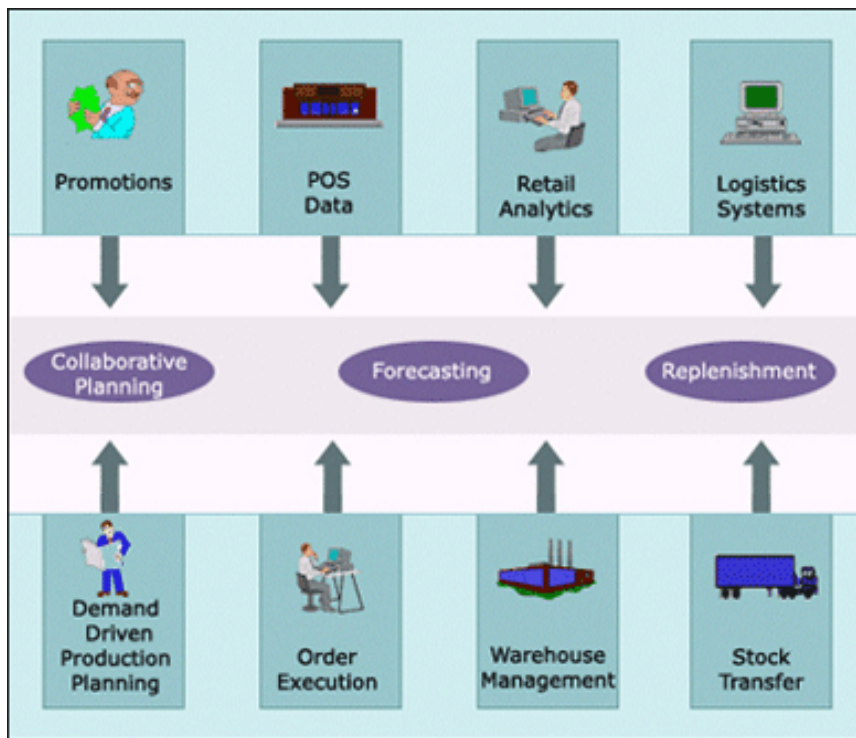
### DecisionCraft Services

#### Business Diagnostics

We analyze business processes and transactional data to identify underlying patterns, unravel hidden relationships and recommend areas for improvement that can improve ROI and reduce costs.

#### Predictive Analytics

We use historical data intelligently to develop a view of future market trends



The VICS Association provides information about the structure of CPFR activities and guidelines for implementing them. According to them, CPFR comprises of four main collaboration activities: 1) Strategy and Planning 2) Demand and Supply Management 3) Execution and 4) Analysis.

Implementation of all four activities is not necessary for implementing CPFR and a subset of these activities can also be implemented.

### 1) Strategy and Planning:

This activity establishes the ground rules for the collaborative relationship. It determines the product mix and placement and develops event plans for the period.

### 2) Demand and Supply Management:

This activity estimates consumer demand and order and shipment requirements over the planning horizon.

### 3) Execution:

In this activity, orders are placed, shipments are placed and delivered, products are received and stocked, sales transaction are recorded and payments are made.

### 4) Analysis:

In this activity, planning and execution are monitored for exceptions, results are aggregated and key performance metrics are calculated. The insight thereof is shared between the partners and plans are adjusted for improving results.

## Implementation

To derive maximum benefits from CPFR, it needs to be implemented in a well-defined structure. A step-wise implementation of CPFR is outlined in the following manner.

- Formally establish an agreement with your trading partners and identify key performance indicators consistent with the purpose of collaboration.
- Formalize the roles and responsibilities of each partner in the CPFR process.
- Develop a collaborative business plan that is consistent with the goals of individual partners and the supply chain alike.
- Develop a sales forecast for the collaborative initiative and identify key exceptions along with methods to address those exceptions.
- Execute the collaborative plan and address any exceptions that arise in a manner decided before hand

and help our clients focus on the right audiences thereby developing their competitive edge.

### Forecasting

We use advanced time-series and regression techniques for forecasting behavior of critical business variables that allows our clients to plan for their resources intelligently.

## Value Proposition

The greatest value of CPFR is derived from the reduction in inventory levels and eliminating out-of-stock situations. Moreover, replenishment cycles get smaller as supply chains get more responsive to end customer demand making it more competitive. As out-of-stock situations are eliminated, sales increase especially in the retail goods industry. As inventory levels are reduced, warehousing costs are also reduced which can result in significant savings. In summary, the supply chain becomes more customer-driven than before and realizes significant advantages from such collaborative activities.

The purpose behind CPFR or any other collaborative activity in a supply chain is to leverage the competencies of each trading partner in a manner where the entire supply chain benefits. Even if trading partners do not implement CPFR in the structured manner defined by VICS, an environment of trust and a collaborative interaction can greatly benefit each one of them.

**Next Issue:** [Collaborate and Conquer](#)

**Previous Issue:** [Web Services For Your Supply Chain](#)

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