

Transforming Trading Exchanges into E-Commerce Portals

*The Role of Collaborative Planning,
Forecasting and Replenishment (CPFR®)*

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Over the past year, a new category of companies called trading exchanges has begun to transform business-to-business commerce. Trading exchanges aggregate buyers and sellers in a vertical marketplace or across several interrelated marketplaces. Services can range from providing on-line vendor product catalogs to procurement, bidder qualification, financing, and commodity futures.

Currently, trading exchanges focus on spot purchases, such as MRO/shared services and commodities. They often facilitate auctions or reverse auctions. They do not typically handle delivery, and may not even handle the actual purchasing transaction.

The Trading Exchange Model

Trading exchanges are expanding rapidly from an indirect procurement base. They will soon transform into end-to-end e-commerce portals by moving in two directions. First, they will handle the full trading lifecycle—from procurement, to supply chain management, to customer relationship management—spanning raw materials suppliers to consumers. Second, they will move into other product and materials channels, including direct replenishment. Figure 1 illustrates the lifecycle and channel dimensions of an E-commerce portal, highlighting the areas exploited to date.

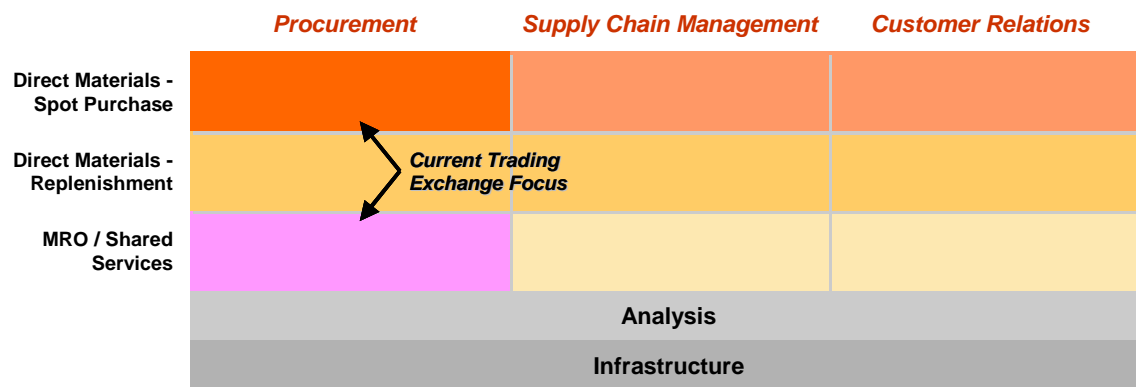


Figure 1: Trading Lifecycle and Channel Dimensions of E-Commerce Portals

The full trading lifecycle and channel requirements of an e-commerce portal imply many specific functional requirements. Figure 2 positions these business functions in the trading model.

¹ Collaborative Planning, Forecasting and Replenishment is a registered trademark of the Voluntary Interindustry Standards Commerce (VICS) Association.

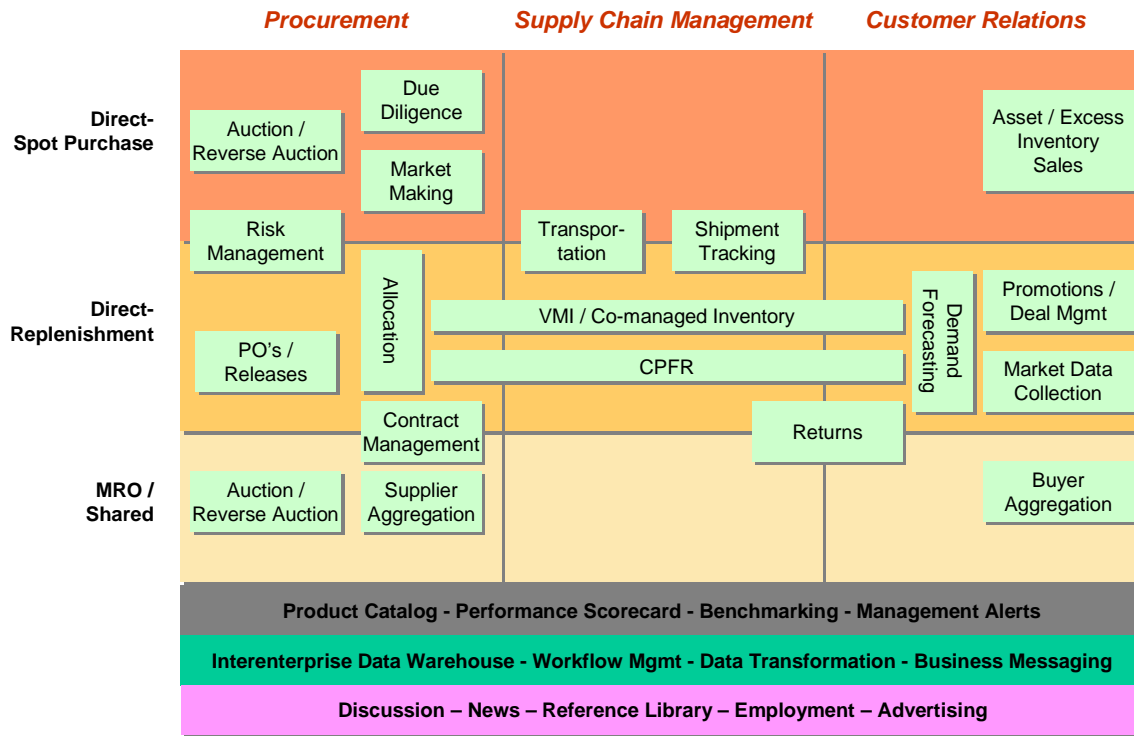


Figure 2 Positioning E-Commerce Portal Services

For spot-purchased commodities or MRO products, an end-to-end portal identifies qualified vendors, products, and terms of sale. It aggregates the needs of many buyers into a buying pool, resulting in larger purchasing transactions. It sets up an auction (or reverse auction) to arrive at a winning bid, or sources supply from multiple vendors. It then handles the purchase transaction, offering financing when appropriate. Finally, the portal arranges for transportation and documentation (material safety data sheets, certificates of analysis, lot and/or serial number traces).

For replenishment-based products, an end-to-end portal must consider the time-phased requirements of supply and demand. The VICS Collaborative Planning, Forecasting and Replenishment (CPFR) process provides a best-practices framework for managing this process. The portal identifies and negotiates planned promotions, new product introductions, inventory policy changes, and store/DC/plant openings/closings. It forecasts demand, allocates demand to selected suppliers, calculates replenishment plans, authorizes shipment, selects loads and routes, and tracks shipments to delivery. The portal also captures historical data, such as actual sales, on-hand, orders, and shipments throughout the supply chain to be used in future plans. Finally, the portal uses exceptions and alerts to ensure continuous feedback and improvement.

All of these services are based upon a common foundation of analytical and infrastructure technologies. Figure 2 also illustrates these. For data interchange, the data transformation and messaging capabilities of an Enterprise Application Integration (EAI) tool set are essential. Data warehousing technology acts as the repository of all transactions, and makes analysis and opportunity assessment possible. Scorecards, benchmarks / performance ranking, and management alerts direct efforts to items that need attention. Workflow management technology coordinates each process, tailoring the steps to fit participants' needs.

Assembling an E-Commerce Portal

No vendor possesses all of the technology required to construct an end-to-end portal. A portal must be assembled from a variety of emerging best-of-breed players. Figure 3 shows how information flows between buyers and sellers, and among selected applications in the portal.

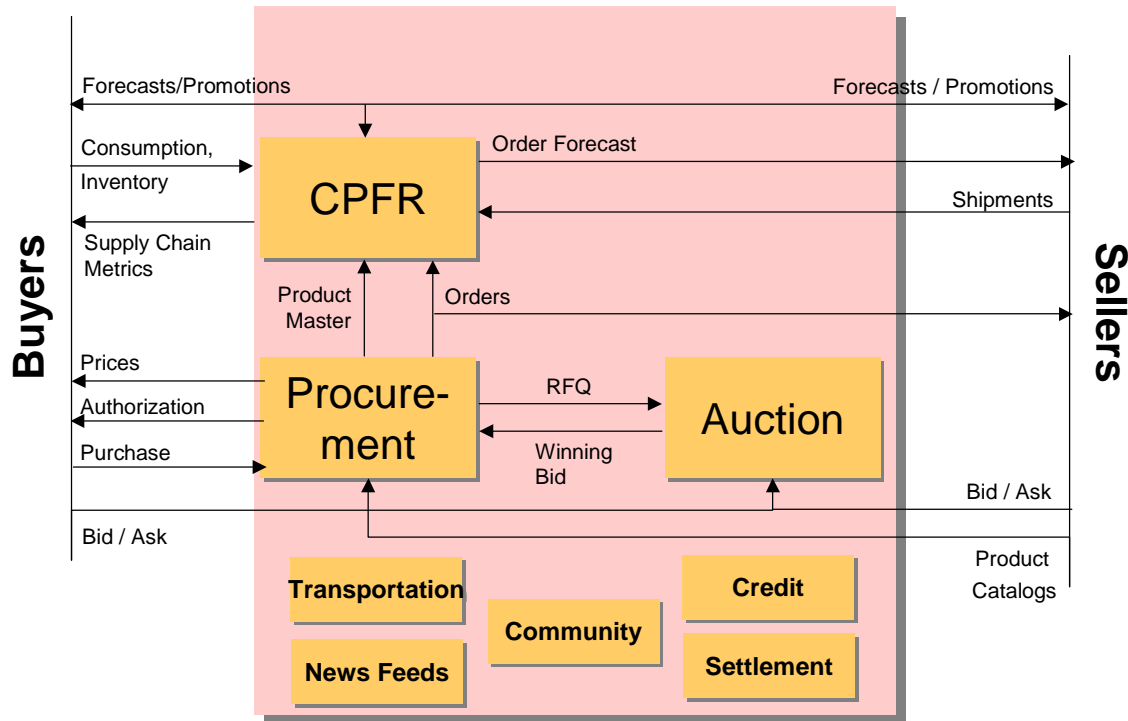


Figure 3 Trading Partner Interaction through E-Commerce Portal Technologies

The procurement solution manages the product catalog, aggregates purchases, and enforces purchasing agreements. It is responsible for generating a purchase order at the end of the process. A B2B auction engine supports the procurement process when there are competing suppliers. The application automates the RFP/RFQ process, or facilitates an auction (or reverse auction), collecting bids and identifying a winning bidder. The CPFR solution shares, compares, and alerts trading partners to changes in forecasts or key supply chain metrics. The CPFR solution may also be responsible for generating demand forecasts and replenishment plans for the trading partners, depending upon the relationship.

Integration with buyer and seller applications is also important. A CPFR solution may be interfaced with trading partners' demand- and supply-chain applications, as illustrated in Figure 4. Within a retailer, merchandise planning applications are responsible for assessing demand, devising promotion plans and establishing consumer demand forecasts. Distribution applications consider these forecasts, as well as stock positions, and generate open orders. Store operations systems report POS activity and store stock positions.

On the manufacturer side, account teams use Customer Relationship Management (CRM) solutions to propose promotions and deals, and develop sales forecasts. Advanced Planning and Scheduling (APS) solutions develop constraint-based production and distribution plans based upon expected demand. Finally, Enterprise Resource Planning (ERP) applications produce the product, yielding shipments.

The CPFR solution is the one place where all of these enterprise applications can coordinate their activities across the extended supply chain.

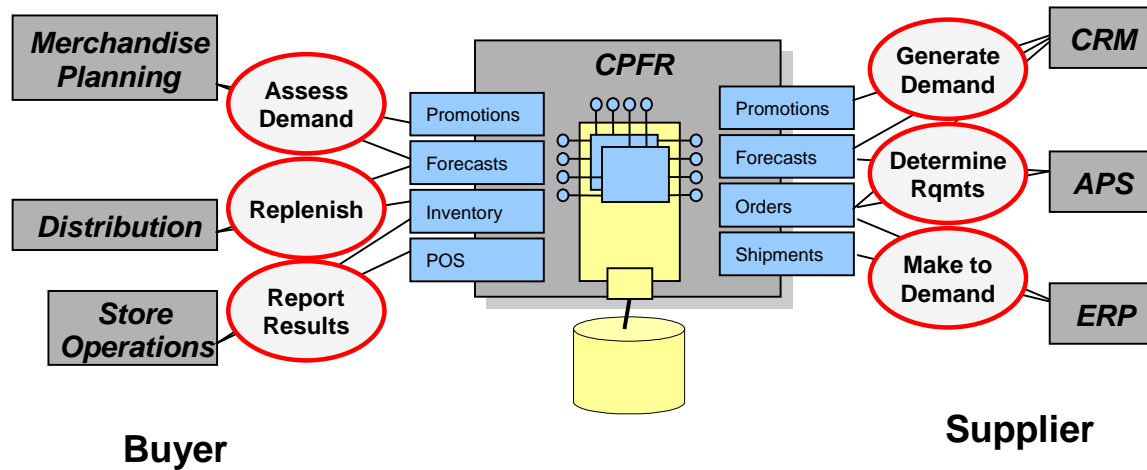


Figure 4 Role of CPFR in Integrating Demand- and Supply-Chain Applications

Conclusion

The promise of e-commerce portals far exceeds their immediate capabilities. Yet, few doubt that the e-commerce portal model will soon be a cornerstone of business-to-business commerce. Early successes by VerticalNet, Chemdex, and others have encouraged heavy investment, providing the motive and the means to develop solutions.

The critical success factor for an e-commerce portal is to attract enough transactions to become a market player and get pricing power. A standards-based strategy for assimilating technology into the portal is the safest long-term bet in this immature market. For replenishment-based products, CPFR is the best-practice standard for linking supply- and demand-chain processes.