

# Win in the flat world

## Making DDSN work: The CPG perspective

– Subhashis Nath, Karthik Kuppusamy and Tejas Faldu

### Abstract

Stockouts are a noticeable problem today. They are a key manifestation of the several problems of demand invisibility faced by retail & CPG companies. Demand Driven Supply Network (DDSN), addresses this dilemma. However, for the effective implementation of DDSN, CPG players must address the demands of their retail partners with respect to collaboration and IT synchronization. This paper outlines how CPG companies can meet DDSN related retailer expectations.



## Business Context

A recent study suggests that the out-of-stock percentage in Retail is approximately 7% during a non-promotional period and about 14% during a promotional period. In terms of the topline loss, this could work out to about \$100 million for a retailer with sales in excess of \$1 billion. Out-of-stock is one manifestation of the several problems of demand invisibility that affect the supply chain today. The other concerns include higher markdown, supply returns by manufacturing/distributing nodes, time lag in product designs, etc.

'Demand Driven Supply Network' (DDSN) is the new method of supply chain management that addresses these dilemmas. DDSN integrates demand, supply and product processes across the supply networks of customers, suppliers and employees to balance revenue against costs. It is a system that enables coordinated processes and technologies to serve the downstream source of demand, i.e. the consumer, rather than be driven by the upstream supply constraint of factories and distribution systems.

## Demand Driven Supply Network: the main components

Unlike the existing source-to-consumer supply chain, which is based on hard assets, DDSN promotes a self-renewing interaction among three strategic business domains – demand, supply and product.

1. Demand forecasting and upward flow of demand plans and trends
2. Supply network design and reaction processes to meet changes in demand and supply, constraints and casuals
3. Product lifecycle management and downward flow of product and promotional information

To achieve this co-ordination, the chain depends on time-phased planning, wherein demand is forecast at a single point in the chain over a time period. It is then collated and percolated upwards for effective demand forecasts for each node in the chain. This results in improved service levels, with minimized out-of-stocks.

However, the key barrier to a DDSN implementation is the integration of these strategic business domains to enable time-phased planning and multi-point Collaborative Planning Forecasting and Replenishment (CPFR) implementation. Each DDSN component faces challenges in paradigm, processes and technology (Table 1):

Issues with incumbent scenario	Demand	Supply	Product
<b>Paradigm Challenges</b>	Activities stimulating demand may be confidential to a CPG player.	Retailers may not be willing to cede control over an important financial driver such as inventory.	Given the private-label competition, CPG firms' know-how of product development would be sensitive information.
<b>Process Challenges</b>	Budgeting and demand forecasting processes and other pre-existing entities may currently have inputs from sources beyond the chain.	Flexibility in various supply chain processes is expensive to maintain. Therefore the reaction time to demand fluctuations may vary based on the extent of value addition at each node.	Product feedback may vary for different markets. However, by brand valuation objectives, it may be pragmatic to remove or add a new product in a whole region.
<b>Technology Challenges</b>	<p>Different nodes in the network may operate on different platforms/ technologies. Communication between these disparate platforms may be complex.</p> <p>Master data synchronization across the nodes may be difficult to achieve. However, this is a definite requirement before demand signals can be synchronized across the chain.</p>		

**Table 1: Barriers to DDSN implementation**

## Enabling DDSN: The primary step

The primary step in enabling DDSN is to establish collaboration and synchronization between the value chain partners. While synchronization focuses on resolving technical challenges, collaboration consists of open communication and commitments based on communication. This would ensure higher visibility and better information exchange between partners, leading to effective DDSN implementation.

### A. Collaboration

While retailers may implement time-phased planning and achieve benefits internally, they would need greater collaboration from their CPG partner to realize the final benefits of DDSN – improved end-consumer service levels, reducing inventory across the chain, etc. As a result, retailers would expect collaboration from CPG companies across various areas/activities (Table 2):

Activities/Areas	Expectation from CPG companies
Demand Planning	<ul style="list-style-type: none"> <li>• Review demand and distribution estimates generated by retailers</li> <li>• Determine warehouse demand using forecasts from downstream data. Share production and distribution plans derived from the same</li> <li>• Collaborate and commit on the demand forecasts, e.g. for any demand forecast shared x days before actual need, the CPG firm agrees to meet 99.8% of the demand. For any shortfall, the CPG firm will directly compensate downstream</li> <li>• Share demand influencing factors – ad run plans, etc. In case of confidentiality, use innovative tactics to enable this</li> </ul>
Replenishment planning & Network planning	<ul style="list-style-type: none"> <li>• Jointly determine multi-echelon safety stock strategies based on demand and supply variance at multiple points, due to varying constraints maintain supply, production and logistics options to meet sudden demand changes</li> </ul>
Promotions Planning	<ul style="list-style-type: none"> <li>• Share promotional lifts and validate promotional forecasts. This would allow greater lead time to plan and build inventory required to meet promotional demand</li> <li>• Allow greater visibility of promotions calendar and communication of promotional information – price prior to promotion start date, etc. This would improve planning efficiency across the chain</li> </ul>
New Product Planning	<ul style="list-style-type: none"> <li>• Retailers would offer greater collaboration with CPG companies to provide feedback and plan product changes</li> <li>• Greater collaboration in logistics of new product introductions and corresponding promotions</li> </ul>
Transportation Planning	<ul style="list-style-type: none"> <li>• Visibility of loads and transportation plans across the chain – would improve the probability of optimal truck loads, dynamic re-routing, etc.</li> </ul>

**Table 2: Retailers' expectation from CPG companies**

**Steps for CPG Partners to meet DDSN expectations**

To meet retailers' expectations of improved collaboration and to enable DDSN, CPG companies must take the following steps across various activities/areas:

**Demand Planning**

- Review the current methodology of forecasting and planning. Restructure processes based on the assumption that different retailers provide POS data, POS and order forecasts in different time buckets

- Understand retailer's maturity to decide whether to use POS data or forecasts. Using order forecasts is preferable only if retailer forecasts are reliable
- Share distribution plans; in case the retailer reveals order forecasts, communicate the ability/ inability to meet order forecasts
- Under CPFR agreements with retailers, performing cost benefit analysis helps to understand the committed buying benefits and unmet demand compensation levels
- Pilot with big retail clients to provide lifts expected in percentage terms based on the duration of promotion plans. With selected retailers, explore the possibility of sharing area promotion plans and seeking cooperation in promotion

### **Replenishment planning**

- Collaborate with retailers to decide safety stocks levels
- If reactive transportation arrangement is available, then maintain safety stock at a central CPG warehouse than at various retailer warehouses. If the supply variance factor and constraint are negligible, safety stocks can be maintained at higher levels and lower quantities
- It is necessary to ensure that one's internal constraints figure in any jointly devised safety stock strategy
- Based on CPFR agreements, maintain stock to meet sudden demand surges. The stock should be calculated based on the commitment given to the retailer and possible lost sales

### **Network Planning**

- Create options for retailers in case of no-supply from warehouses, e.g. a wholesale supplier in a regional market maybe a good second option to generate supplies for a Retail partner
- These low lead-time suppliers must be maintained. This can be done either by establishing a certain percentage of the retailer's supply that is regularly met through this supplier, or by other means (trade conditions, etc.)

### **Promotion Planning**

- Develop a track of promotion planning that focuses on generating promotional lifts in the retailer's forecasts
- Create retailer awareness around the promotion and about keeping stock and distribution plans ready for the promotion
- Share a promotions calendar or lift calendar with large Retail partners

### **New Product Planning**

- Review item development and introduction processes and restructure them to accommodate retailer inputs. Retailer inputs, one of many factors considered in product development, can be used to validate third-party survey data
- In case of new product launch delays, ensure that processes are in place to alert the retailer in advance

### **Transportation Planning**

- Provide incentives to retailers to create full truckloads in their ordering logic. To prevent back-orders, etc. give retailers visibility into transportation plans to their locations and allow for additional orders to fill trucks

## **B. Synchronization**

While collaboration comprises of communication and commitments based on those communications, synchronization focuses on resolving the technical challenges that arise in enabling this.

The extent of collaboration determines the volume and frequency of information exchange between trading partners. However, existing EDIs are not built to support higher information exchange. Hence, CPG companies must work with their channel partners to build systems that would support higher information exchange. The steps required to ensure synchronization across the value chain are unique to each organization and its value chain. For this, CPG companies need to agree with their partners on the following:

### **Data normalization**

- Conventions for time buckets - There are variations in the way several partners represent time, i.e. weeks starting from different days, months from the first Sunday, etc.
- Standardized product codes like the GTN and GLN

### **Globalization**

- Build ability to handle different languages, currencies, date formats, time zones etc.

### **Security**

- Meet the highest security standards as sensitive data from multiple enterprises would be exchanged

### **Communication schema**

- Mechanisms like the XML schema are required to ensure consistent messaging and universally acknowledged format definitions

## Conclusion

Demand Driven Supply Network (DDSN) is about sharing of information, coordinating decisions and dynamic operational planning. CPG players need to anticipate that their retail partners will demand greater collaboration and IT synchronization to form an effective DDSN. Hence, CPG players must ensure that they form demand management and supply chain processes in line with these expectations, in case they are at a process redesign stage. Similarly, if approached by a single retail partner to synchronize processes and data, the CPG player must create standards or processes, such that they would be scalable and repeatable for other retail partners too. Thus, CPG players must focus on:

1. IT and data synchronization
2. Sharing of demand influencers and estimates
3. Using demand estimates in operational and strategic planning
4. Creating flexible supply chain and procurement processes to enable quick reaction to demand changes
5. Entering into collaborative agreements and commitments based on the financial load of changed processes to meet commitments and potential gains

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