

Managing Sell-In and Sell-Out for Effective S&OP

By Éder Frois

EXECUTIVE SUMMARY | The relationship between sell-in and sell-out in the pharmaceutical industry is a critical one. Sell-in represents the volume of product sold to manufacturers, retailers or distributors while sell-out represents the actual volume sold to the end consumer. Minimizing the delta between the two is key to avoiding burdening different channels with excess stock and maximizing profitability. This article reveals how S&OP and planning tools can be used to minimize the difference. By collaborating with marketing and conducting an effective demand review, the impact of marketing promotions and other demand factors can be identified, allowing for better and more agile inventory decision making.



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The Sales and Operations Planning (S&OP) process is fundamental for balancing supply and demand in the supply chain. In the pharmaceutical industry, this balance is crucial due to the sector's complexity and regulation, especially since a lack of products can impact people's lives.

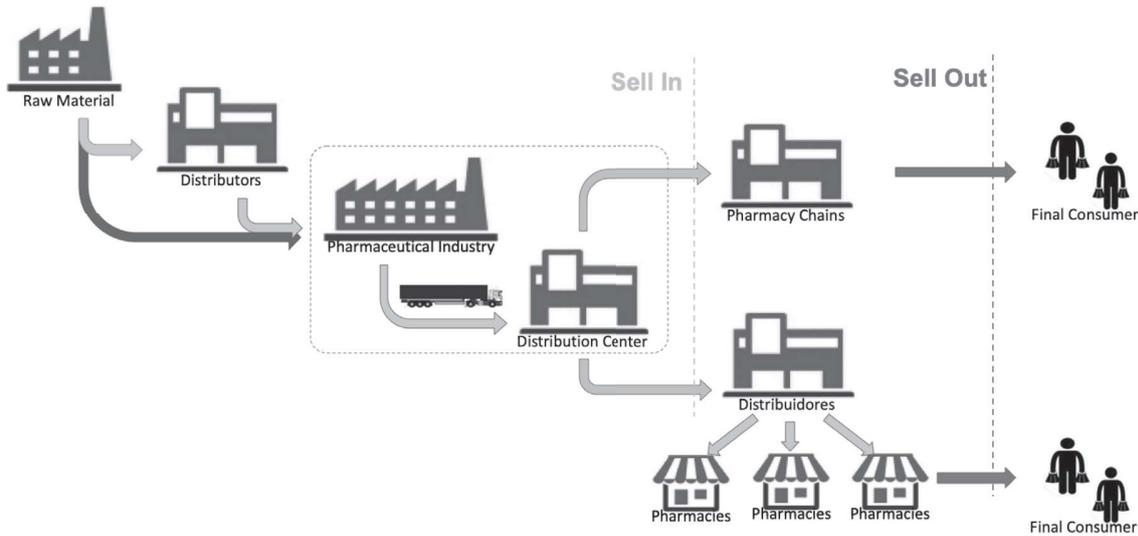
Conducting digital transformation in an S&OP process is no easy

task, particularly in ensuring that the system is useful and can support the process. It is not uncommon to invest heavily in solutions that fail to add value, either due to poor implementation, lack of user engagement, or difficulties in properly establishing the process before seeking technological assistance. This is because the central aspect of S&OP is the people involved, represented by the key areas of a

company during the execution of the process. Negotiation and consensus among these areas are necessary to arrive at a set of cohesive operational plans. Therefore, a solution needs to be designed to aid in achieving this consensus.

Leading the implementation of a system, particularly within the demand planning process in the pharmaceutical industry, involves manag-

Figure 1 | Typical Sell-In and Sell-Out Flow in the Pharmaceutical Supply Chain



ing the relationship between sell-in and

sell-out. This relationship directly impacts the accuracy of demand forecasts and the overall efficiency of the supply chain. Understanding and managing this relationship is essential for optimizing demand planning and ensuring that products are available at the right time and in the right quantity.

Sell-in refers to sales from the manufacturer to distributors, retailers, or wholesalers, representing the initial stage of getting products into the market. This process involves negotiating with intermediaries to purchase and stock the products. On the other hand, sell-out refers to direct sales to end consumers, indicating the real consumption of products by the market. The success of sell-in is crucial to ensure that products are available to end consumers at points of sale, while sell-out reflects the acceptance and actual demand for products by the market.

The distinction between these two concepts is vital for demand planning. A discrepancy between sell-in and

sell-out can result in excess inventory or stockouts at points of sale. If sell-in is much higher than sell-out, distribution channels may be overburdened with excess stock, leading to storage problems and potential product obsolescence. Conversely, if sell-out exceeds sell-in, it can result in stockouts, leading to lost sales and customer dissatisfaction.

To manage this, a system needs to integrate sell-out data to adjust sell-in projections. This is accomplished through channel inventory parameters, ensuring that real market demand is met without overloading distributors with excess stock. This process involves the continuous

analysis of sell-out data to adjust sell-in forecasts, ensuring inventory levels are optimized to meet demand without creating excess or shortages.

COMBINING SELL OUT & SELL IN IN THE DEMAND MANAGEMENT PROCESS

As the demand planning process develops, the planning flow should be structured to first project the sell-out and then derive the sell-in. Figure 2 summarizes the design of this flow:

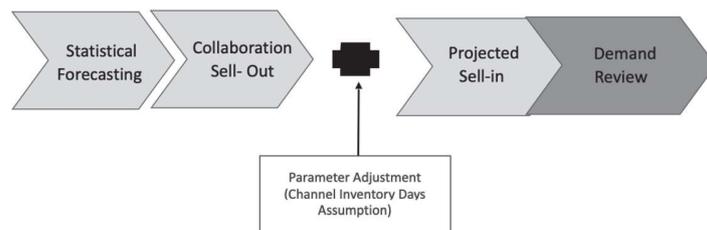


Figure 2 | Diagram Representing Demand Planning Process Flow.

1.

STATISTICAL FORECASTING

The system generates the initial base number for discussions. It uses historical data to project future trends, applying the best statistical model that fits the historical series. This initial number is used for product demand forecasting. The statistical forecast includes both sell-out and sell-in. Sell-in is projected based on the company's historical sales data. Historical sell-out data is imported via a template in the system, as this information is obtained from an external market intelligence provider.

2.

SELL-OUT COLLABORATION

This collaboration stage between the initial statistical sell-out projection and the marketing department is a fundamental step in the demand planning process. The statistical projection is based on historical data and mathematical models which, although they can provide a certain level of accuracy, cannot capture abrupt market changes or new marketing strategies. By adjusting these projections, marketing managers can incorporate qualitative information, such as upcoming promotional campaigns, competitor product launches, and changes in consumer behavior that may affect sell-out. Additionally, the collaborative review allows for the identification of potential deviations between statistical projections and market expectations, as well as opportunities to adjust marketing strategies to better capitalize on

market trends. Considering marketing strategies in the sell-out projection also helps to provide a more agile response to market changes. If a marketing campaign performs better or worse than expected, projections can be quickly adjusted to reflect the new reality, ensuring greater accuracy in forecasts.

3.

PROJECTED SELL-IN

After the marketing department's collaboration on the sell-out, the projected sell-in is generated. While the projected sell-in is also produced through statistical analysis, it will be derived from the projected sell-out by the tool. This approach allows the statistical analysis to serve as a comparison tool throughout the process. For this derivation to occur, the parameter for days of inventory in the channel is necessary to project the sell-in.

4.

TARGET CHANNEL DAYS OF INVENTORY

This refers to the number of days a certain level of inventory should last to meet sales demand in the product distribution channel. This indicator is crucial for inventory management in the channel, as well as for projecting the company's sell-in. The system may recommend that the projected sell-in should maintain 60 days of inventory in the channel, for example. This is based on the understanding that distribution channels in the

sector maintain, at a minimum, 30 days of internal inventory. Therefore, considering an average supply cycle, the lead time the company takes to deliver products to customers, and assuming the projected sell-out occurs as expected, distributors will purchase at least the necessary quantity to replenish their internal inventory. This decision is largely financial. If the company wishes to maintain higher inventory levels in the channel, it will likely need to offer longer payment terms to distributors to incentivize them to keep larger inventories.

5.

DEMAND REVIEW

The purpose of this meeting is for teams to discuss the planned numbers for the month and the future outlook, as well as to analyze and validate demand forecasts. The goal is to validate the forecasts, identify potential deviations, and adjust estimates as necessary. During the meeting, different demand scenarios are evaluated, including the analysis of best and worst cases, as well as the identification of possible risks and opportunities. Based on these discussions and analyses, demand forecasts are adjusted and refined. It is crucial to ensure that all areas are aligned regarding demand expectations. A simulator was developed for projecting the sell-in, considering the sell-out agreed upon by the teams and the inventory days in the channel that the company intends to work with. During the meetings, the teams can set parameters, by family or specific product, for the projected inventory in the channel. The system then projects the sell-in based on the

sell-out and these parameters.

With this advanced analytical capability, the company not only keeps its projections under control but also can make strategic decisions that drive performance and ensure sustainable growth. Understanding and controlling the relationship between sell-in and sell-out is a key component in demand forecasting within the S&OP process and in efficient supply chain management. Monitoring and analyzing these indicators allow the company to quickly adapt to market changes, optimize its processes, and improve operational efficiency.

This analysis also provides the company with robust control over its projections and the ability to evaluate scenarios where channel inventories need to exceed the 60-day standard. In my company, which operates in pharmaceutical industry, in the first year of using the system, the company leveraged the visibility of sell-in, sell-out, and days of stock in the channel. This visibility enabled us to reduce the number of days in the channel for the following year, as it was higher than expected. This clarity provided by the system was highly valuable for executive management, as it allowed the company to focus on sell-out numbers, which ultimately matter most and represent the area where

attention should be concentrated.

Additionally, by understanding inventory levels and sell-out performance, we were able to make more informed decisions about extending or modifying payment terms to better align with inventory management.

KEY BENEFITS OF MANAGING SELL-IN/SELL-OUT

With this system, the company can perform several analyses and avail of specific benefits during the process, such as:

- **Evaluate Impacts on Estimated Sell-In:** Understand how changes in inventory levels directly influence sell-in, enabling more targeted adjustments.
- **Make Tactical Decisions:** Determine the need to adjust payment terms to facilitate inventory management in the channel, which is crucial for maintaining strong relationships with business partners. This also includes understanding how different inventory levels and payment terms impact financial resources, allowing for more effective financial planning.
- **Monitor and Analyze Sell-Out:** Assess the performance of agreed sell-out targets, allowing for ad-

justments in sales and marketing strategies.

- **Increase Market Response Agility:** Quickly adapt to market changes by adjusting inventory levels and financial strategies, ensuring an efficient response to new demand and market conditions.

It's important to highlight that the parameter 'number of days in the channel' can vary depending on the portfolio characteristics. For example, mass-market products like vitamins, which are usually more intensively stocked at the point of sale in pharmacies due to their OTC (Over-the-Counter) status, may require more days. On the other hand, prescription medications may have a standard presence (or shorter), as their sell-out is directly related to the number of prescriptions.

The development and implementation of an S&OP system that focuses on integrating sell-in and sell-out data has proven effective in improving demand planning and supply chain efficiency. A broader study could, for instance, measure how this approach helps control the bullwhip effect. An effective sell-in/sell-out process facilitates data integration and process automation, providing a solid foundation for informed, market-aligned strategic decisions.

—Send comments to JBF@ibf.org