The Challenges of Cross-Channel Fulfillment to the Retail Supply Chain - Part II
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As a Consultant working with Retail Industry Solutions Unit of Tata Consultancy Services (TCS), Prasanna specializes in helping retailers assess the current performance of their business processes and identify any gaps that can be addressed through process or technology intervention. Prasanna works with leading retailers to develop solutions that help them remain competitive and relevant in the modern environment.

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Modern shoppers expect their retail experience to be channel-agnostic. Their experience needs to be seamless no matter what channel the interaction with the retailer takes place on, how many channels the interaction eventually involves, and whether or not a single transaction spans across multiple channels. This rapidly materializing requirement will impact each and every function of the retailer, and their response will be key to their staying competitive and relevant to the modern consumer.

Providing such a channel agnostic experience necessitates increased sophistication on the part of the retailer. The retailer can no longer function in traditional organizational and technological silos.

In Part 1 of this two-part series on cross-channel fulfillment in retail, we examined the customer drivers pushing retailers towards cross-channel, and the aspects of the supply chain that retailers would have to transform in order to adapt to the cross-channel environment.

In Part 2, we consider recommendations that retailers can adopt in order to successfully make the transition to the cross-channel environment.
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1. Establishing a Cross-Channel Supply Chain

Customers of today perceive value in being offered a wide assortment of products that cater to their every need. They expect these needs to be fulfilled seamlessly across the available channels, for any combination of the multiple methods of ordering, payment, delivery, and returns. They want detailed product information on every channel, coupled with the ability to instantly compare prices and seek peer and expert reviews. And all this must be offered with transparency and without any impact on the product cost.

Retailers must optimize their supply chains to deliver products from any point where customers want to buy them, to any point where customers want to collect them. However, a number of different factors need to be considered while enabling the traditional supply chain to deal with the demands and expectations of the modern cross-channel customer.

Strategy

The supply chain for the cross-channel environment can take on a number of different combinations, based on whether it is going to be in-house or outsourced, and whether there will be a dedicated supply chain to serve each of the multiple channels or a single supply chain shared across the multiple channels.

**In-house v/s outsourced**

The in-house v/s outsourced supply chain debate arises for retailers that need to choose between maintaining tight control over their supply chain operations, and focusing on product differentiation while targeting cost optimization.

An in-house supply chain allows the retailer to amass a wide variety of data about customers, including buying preferences, ordering patterns, and shipping requirements. All this information can be analyzed to improve the supply chain and also to tailor specific offerings and promotions to the customers. This model is suitable for retailers that want to differentiate themselves through superlative customer service and integrated fulfillment capability. While this model offers the retailer greater control over the supply chain, operations need to be of sufficiently large scale to offset the very high fixed cost of establishing such a supply chain.

On the other end of the spectrum lies the outsourced supply chain; especially attractive to newer entrants in the retail space who want to focus their energies on developing and refining their product offering while delegating fulfillment to an external organization. In such a scenario, fulfillment takes on the role of purely a support function while the retailer's core strength lies elsewhere. Retailers can also adopt options such as drop-shipping, where the merchandise is shipped directly from the manufacturer to the customer via a third party logistics company, so that the retailer does not handle the goods at any point. This results in greatly reduced inventory holding and handling costs.

**Shared v/s dedicated**

In the cross-channel environment, the supply chain has to be agile and responsive to the demands from multiple channels. To cope with such requirements, retailers may share the existing supply chain among the multiple channels, or have dedicated supply chains that serve each of the different channels.
A shared supply chain works for retailers when cross-channel sales account for a very small percentage of the overall sales; the bulk of their sales still come from the traditional brick-and-mortar channel. In such a scenario, the inventory and fulfillment operations can be shared across multiple channels. The inventory manager still needs to ensure that items are available on the shelves of physical stores. For fulfillment of orders from the other channels, store associates can be leveraged to pick and pack the items from store shelves to prepare for shipping or in-store pickup.

As the contribution of sales from multiple channels rises and customer expectations mature towards a more unified experience across channels, retailers can consider the option of dedicated supply chain capabilities for each of the multiple channels. This implies separate inventories and operations to meet the distinct requirements of each channel. Such a model will be viable only if business from each of the multiple channels is sizeable enough to warrant the investment in separate supply chain capabilities.

**The optimal combination**

In arriving at the optimal strategy for their supply chain, retailers need to determine which supply chain capabilities are most critical to their customer value proposition. The ideal supply chain for most cross-channel retailers would be a combination of the aspects described above viz. in-house, outsourced, shared, and dedicated.

For a retailer with well established sales from the physical channel and only a small contribution from other channels, an in-house shared supply chain may be the best combination. With minimal disruption, stores can be equipped to pick, pack and ship cross-channel orders in parallel to regular store operations. However, the ecommerce fulfillment capability of such a model will be inherently poor. The retailer will not be able to take advantage of the online channel’s virtually unlimited shelf space to expand product assortment, since assortment would be defined by what is available in the physical store.

Separate in-house supply chains dedicated to multiple channels should be considered only when the needs of each channel are different, and each channel contributes significantly to the business. Dedicated inventories and separate networks will entail high incremental costs, so the viability of the investment must be weighed carefully. The advantage of this model will be tighter control over the supply chain for the retailer, and operations-based competitive advantage through each of the channels.

For retailers where the multiple channels have similar needs and share similar characteristics, a shared outsourced supply chain model may prove ideal.

Finally, the dedicated outsourced supply chain model will work for retailers who are very adept at traditional retailing, but are still learning the ropes of cross-channel retailing. Since physical retailing requires capabilities such as inventory management, demand forecasting, and ordering planning that retailers have already mastered, this channel should continue to be owned and operated by the retailer. For cross-channel fulfillment that requires rigid order processing and greater picking, packing, and shipping accuracy, the supply chain management can be handed over to third party operators that specialize in these capabilities.
Integration

The cross-channel supply chain of the future can ill afford the luxury of having independent decisions and actions taken by people from different organizational departments. The ‘silo’ approach that worked in the past with more simplistic supply chains will only compound the already complex requirements necessitated by a cross-channel supply chain. Real time, complete and accurate visibility of all Stock Keeping Units (SKUs) is a precursor to optimizing cross-channel fulfillment. Only once this is achieved, will other objectives such as optimizing picking operations in the warehouse, deciding fulfillment routes on the basis of stock availability and proximity of fulfillment centers, and offering multiple fulfillment options to the customer be achievable. Using the same information about product, customer, and inventory across the entire selling environment is the first step towards harmonization of channels.

A well orchestrated approach to inventory strategy needs to be taken in order to optimize the inventory. While maintaining multiple sales channels complicates the inventory management and order fulfillment processes, it can also provide significant opportunities. When executed well, the retailer can leverage the entire network including store locations and drop-shippers for order fulfillment.

There is also an acute need for real-time inventory visibility that can only be met by integration of the disparate systems that support the supply chains. The best approach would be to work backwards for each item to determine the optimal assortment retailers must carry, and then determine the supply chain strategy that best supports the assortment.

To operate such customized inventory strategies with any success, retailers must achieve close integration among various departments in the supply chain such as Merchandising, Product Development, Sourcing, Distribution, Packaging, Warehouse Operations, Store Operations, and Information Technology.

Choosing an integrated and modular suite of applications should be a key selection criterion for retailers. The core enabling applications in any technology solution to support cross-channel fulfillment should be:

- **Inventory Management:** Cross-channel retail opens up two physical routes to the customer: through the store format, and direct to the customer (either to their home or to a store (in store pick up). This brings a higher expectation of product availability from the customer. Retailers will have to decide whether a common stock pool is sufficient to meet this demand. Stock availability across all channels must be ensured. Some retailers may want to pick and ship from stores, while others would find it more efficient and profitable to ship from the regional distribution center. Retailers must ensure full range availability to avoid stock outs and loss of sale.

- **Warehouse Management:** With just one channel, there was scale that could be forecasted and planned for. However, in the ’direct to customer’ scenario presented by cross-channel retail, changes in the distribution center processes will have to be driven by the Warehouse Management System (WMS). The WMS should be able to deal with the changes in pick quantities, smaller and single pack sizes, small and frequent orders, and reverse logistics.

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- **Replenishment Management**: Replenishment requirements will be affected by the need for single packs, small and frequent orders, and changes in package sizes. The WMS should be configurable to accept not just the traditional carton levels, but also singles.

- **Transportation Management**: Transportation Management Systems (TMS) should be able to consolidate at the point of origin so that orders for store replenishment and direct to store click-and-collect orders to the same store are dispatched together. The TMS should also support real-time SMS and email alerts to customers for home delivery orders in order to reduce instances of items being carded and returned to the depot. Such measures can bring down the cost of operations.

### Distribution Center Operations

Operations of the retail distribution center will form a key link in the successful execution of a cross-channel supply chain.

The traditional distribution center relied on economies of scale to keep down cost of operations and ensure high efficiency. Stable demand, cherry picked assortment, and primary responsibility of preventing stock outs at the store meant that the distribution center primarily dealt with large pallets. Forklifts were sufficient to respond to replenishment orders from stores.

The cross-channel retail environment has introduced new challenges that the distribution center must overcome in order to provide customers with a seamless experience while keeping operational costs low. Cross-channel customers expect, and are being offered, multiple modes of fulfillment. Customers want to be able to receive, pickup, and return items wherever and whenever they want. For example, Amazon in the UK has tied up with PayPoint to offer customers delivery to local newsagents and convenience stores. These advancements offer great convenience to the customer but pose challenges that the supply chain must overcome.

There will be scenarios where the distribution center is called upon to fulfill a shipment directly to the customer, fulfill a small shipment for a store pickup, or complete part of a split order (where the other part of the order has been fulfilled elsewhere). The distribution center will have to be equipped to pick individual items, pack them separately and ship directly to the customer. Such orders greatly increase the cost of operations and bring down efficiency at the distribution center.

To handle such challenges, the modern retail distribution center will have to invest in technology and automation to reduce the cost of operations. The core operating capabilities of the distribution center must be highly configurable to allow for the dynamic nature of the cross-channel environment. Common processes must be standardized across all locations while allowing for local overrides in order to provide a quick and flexible response to facility-specific requirements.

### The Role Of The Store

The traditional role of the store as the terminal point of the supply chain, where customers only came to pick and pack their shopping needs will have to be altered significantly in order to support cross-channel fulfillment.
For retailers with a smaller contribution from multiple channels, it will only take minor incremental effort to offer fulfillment options such as 'Shop cross-channel – Pick Up in Store', and 'Shop cross-channel – Ship from Store'. Store associates can be trained to pick, prepare for collection or pack and ship the items from cross-channel orders.

**Extend store capabilities**

As cross-channel volumes increase, store capabilities will have to be altered in order to support greater demand. To rely on store operatives to pick cross-channel orders in addition to their regular duties may prove inefficient and uneconomical. These additional tasks will hinder the efficiency of their everyday operations and cause inconvenience to in store shoppers.

When faced with this decision, retailers will need to invest in extending the fulfillment capabilities of the store. One option can be to increase the capacity of the back store and invest in automation and technology to support fulfillment from the back store. Automation will lead to more efficient picking and packing as compared to manual operations. The store can then function as a mini distribution center that is able to serve multiple modes of cross-channel fulfillment. Accurate forecasting and appropriate inventory assortment will play a big part in making this model a success. With the increasing demand for localized assortments, this model will enable stores to remain relevant to the local demography that they serve across the multiple channels.

Stores can also be enabled to cater to customer needs of comparisons shopping, detailed product information, and peer reviews from social media. To do this, stores need to simply offer high speed broadband access to customers. Internet browsing kiosks within the store and dynamic digital displays will enhance the experience of a 'connected store'. This will ensure a unified shopping experience since the customer is able to perceive the retailer as a 'brand' rather than a collection of unconnected channels.

**Empower store employees**

Cross-channel retail does not change the fact that the fundamental relationship aspect of retail is most strongly applied at the physical store. Customer satisfaction can be achieved and surpassed only when store associates are able to satisfy customer needs. The changing role of the store in the cross-channel environment must take into account the fact that its store employees are its most differentiating value addition. In order to be able to do this, employees need to be armed with more information than the customers have access to. Non-differentiating activities such as picking, packing, shipping and others necessitated by cross-channel fulfillment need to be hyper-optimized so that store employees are able to dedicate a greater percentage of their time and energy towards servicing the customer directly through assisted selling, providing product information, and general customer service.

**Leveraging Big Data analytics**

The flow of data and information that is required to support the smooth and efficient running of a supply chain takes on even more relevance in the sometimes uncertain, sometimes unpredictable, and constantly evolving environment of cross-channel retail. The manner in which this flow of information is managed will define the way the industry moves forward and copes successfully with the challenges of cross-channel retail.
As multiple channels have come to the fore, retail companies have started addressing these new challenges, but typical responses are in the form of small budgets and ad-hoc systems that were made to 'hang together' in isolation without any focused investment in process technology.

The exponential growth of the Internet and multiple channels available for retail purchases, along with the growth of social media avenues such as Twitter, Facebook, MySpace, and YouTube has heralded the age of Big Data. Electronic On Board Recorders (EOBRs) in trucks, sensors and Radio Frequency (RF) tags in trailers, RF readers in distribution centers, and the massive numbers of new handheld devices (smart phones and tablet PCs) are all sending, receiving and processing huge amounts of data that had not previously been a part of the retail supply chain. Simply put, Big Data is a data set that is too large and too complex to be processed by traditional methods, and needs new techniques and architectures in order to spot patterns and unravel insights, for instance, regarding customer behavior.

Big Data can be used for better and intelligent management of the cross-channel supply chain. One of the biggest benefits lies in better management of the inventory by anticipating customer needs. The cross channel customer relies on referrals, feedback and public opinion on products, from varied sources such as Twitter and Facebook. Retailers who are successfully able to leverage data from these sources to anticipate and accurately set inventory levels will reap rewards in the form of a more efficient and agile supply chain. To do this successfully, retailers will have to move from the traditional practice of batch data processing to an environment where data analysis and inference is done in real time, continuously.

Customer service and customer loyalty will witness positive repercussions. Inference from customer behavior data gathered from multiple channels can be used to recommend additional items to customers based on their buying behavior, and also target promotions that are relevant to them. This will encourage customers to increase their order size and reduce their shipping costs, and help the retailer achieve supply chain efficiency through consolidation.
2. Conclusion

In order to successfully satisfy the needs of the cross-channel customer, retailers will have to reinvent their supply chain. First, they must choose between a combination of shared/dedicated and in-house/outsourced supply chain. The optimal model will be the one that resonates most strongly with the retailer’s key value proposition.

Retailers will have to invest in technology that enables integration across all operations and channels. The biggest benefit of integration will be the ability to leverage the entire inventory across the multiple channels and achieve the much needed cost optimization. The integration will also enable retailers to offer the customer inventory visibility at all locations and empower the customer to make informed purchase and collection decisions. This will determine success in a cross-channel environment.

The role of the retail distribution center and the physical store will undergo change to adapt to the needs of cross-channel retail. The distribution center will have to invest in technology and optimized processes to offset the higher unit cost of fulfillment caused by cross-channel retail. The store will also have to take on the responsibility of a ‘mini-distribution center’, in addition to its traditional role, to support a streamlined cross-channel fulfillment model.

Big Data analytics will play a key role in helping the retailer anticipate customer needs and trends and keep its supply chain prepared to respond to any changes.

These considerations and recommendations will help retailers realize their ultimate goal - to create a cross-channel universe that revolves around the customer – a universe in which the customer is able to ‘see’ the retailer as one brand, irrespective of the channel they use to connect with the retailer.
About TCS' Retail Industry Solutions Unit

The Rules of Retail have changed. These New Rules bring new opportunities for the retail industry - opportunities that might themselves become game changers. More and more, innovative retailers - using brilliant strategies, advanced technologies, best practices, and operational excellence - grow revenue by delivering satisfying buying experiences wherever their customers are and whenever they want to buy.

Tata Consultancy Services has partnered with eight of the top 10 US and five of the top 10 UK retailers on this journey. Our innovative business solutions, and comprehensive portfolio of offerings, help retailers use these rules to guide them and build deeper and stronger customer relationships, reduce cost and increase efficiency through our integrated IT, BPO, and Infrastructure services and proprietary Retail Industry Solutions.

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