

Warehousing and Distribution

Future lies in automation

Future Supply Chain Solutions

Context

Future Retail is a leading retailer in India in the organized segment, operating various brands such as Big Bazaar, Pantaloon, Food Bazaar, Central and eZone across India. The company has a massive footprint in the Indian retail market, with a turnover of about INR 95 bn (2009-10)¹, about 16 mn sq.ft. of retail space and over 1,000 stores spread across 80 cities and 60 rural centres in various formats.

Fashion and apparel has been one of the main growth drivers for the business and a sense of the scale of this segment can be gauged from the fact that the apparel volume that moves through the retail network is much more than that of all other branded fashion apparels in India put together. Large and growing volume across a large and a widely spread retail network has added significant complexity to their distribution operation.

Complication

One of the key questions facing the company was how to achieve higher throughput from the warehouses managed by the 3PL service provider, Future Supply Chain Solutions (FSCS). Business projections for the company were significant, both in terms of absolute quantities that had to be handled by the warehouses and the number of stores to be serviced per warehouse. With the bigger warehouses already servicing over 40 stores and alongside increasing projections, the challenge was enormous. FSCS already had a **Warehouse Management System (WMS)** which was helping it with running the operations at such large volume levels. It was now all pivoted around increasing efficiencies – handling huge volumes, achieving fill rates of 99 percent and ensuring dispatch accuracies to 100 percent – all of these to be achieved at an optimum cost. Further, there were

multiple categories of products to be handled with each category having its own supply chain needs.

The other critical challenge was to deal with peak volumes during the August 15 and January 26 sales promotion events announced by the company. For instance, the average picking of 30,000 apparel pieces per day under normal sales days was to treble at one of the warehouses. This translated into increasing the number of pickings to 3-4 times the normal capacity (with additional labour) without compromising on outbound accuracy.

Resolution

To resolve the complex challenges faced by the company, FSCS analyzed the detailed data on the various parameters such as current order volumes, number of Stock-keeping Unit (SKUs), inventory in process, number of end locations to be serviced through a Distribution Centre (DC), etc. Accompanied with this analysis and the domain understanding of how each product category behaved through the supply chain, FSCS decided that it was the apparels category where new technology was needed to handle the challenges, particularly picking and sorting.

For picking, FSCS already had WMS. However, in a scenario with huge volumes and a higher number of outlets per warehouse, batch picking was imperative, and with batch picking, physical sorting capacities needed to go up manifold. FSCS then started to look at the available technologies that could help increase the sorting speed drastically and at the same time improve the accuracy of the goods processed. Another set of factors determining the technology to be used were cost, reliability and scalability - all at the same time.

To arrive at the best suited technology, FSCS evaluated multiple 'sortation' systems such as Ring sorters, Bomb Bay sorters,

¹ Currency conversion at 1 USD = INR 45



Cross Belt sorters, Pick-to-Light systems and Put-to-Light systems among others. Finally, Put-to-Light (PTL) system was selected because of its effectiveness in the given scenario on all the critical requirements discussed above. Also, this was a simple system that required minimal training to the user at the lowest level, an important factor in the Indian context. Further, to doubly ensure accuracy especially during the peak days, FSCS integrated the PTL with a Print & Apply system which ensured that the packed boxes were subjected to a weight check and were rejected if the check failed.

While addressing these process-based improvements, FSCS had to overcome several challenges such as those in seamless technology integration with the WMS, coordination with multiple vendors and the expected short turnaround time for implementation. Owing to timely resolution of all these issues, FSCS was able to implement PTL within a short span of 5 months (May 2010 – September 2010) across 5 large warehouses.

Outcome and Impact

As expected, there were visible improvements in productivity and efficiency: while processing capabilities in terms of sorting and packing the pieces increased three-fold, batch picking efficiencies also increased as sorting was no longer a bottleneck. This meant that with the same resources, FSCS could now pick, sort and pack at thrice the earlier pace.

Further, while the outbound box capacity utilization increased dramatically to almost 100 percent, up from an average of 80 percent, the outbound stock accuracy increased minimally at first and then kept on improving as the staff became increasingly conversant with the new technology. Although this improvement was initially triggered by the WMS, the accuracy improved further despite the increasing volumes.

Next, visibility in terms of inventory at every stage increased. More detailed and frequent Management Information Systems' (MIS) reports could now be generated as more measurement systems could now be placed at the critical steps. This enabled the warehouse management to take immediate corrective actions where necessary. Moreover, the ease of training resulted in fast roll-out of the technology, while the scalability ensured that the increasing number of stores mapped to any DC was not a challenge anymore in terms of picking and sorting capacities. The other advantage was that the adopted measures relieved some labour bandwidth. FSCS could now deploy more staff in inventory management to ensure stock accuracy through continuous cycle counts. Also, exception management now got its due focus.

Increasing reliance on technology solutions is the key to increasing efficiency of logistics operations, particularly while handling huge volumes on a daily basis. As India gears up for opening up of the organized retail sector, a well managed and tech-assisted supply chain will emerge as a key enabler and differentiator.

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