Enhancing Profitability of Retail Chains: Using the Fundamental Principles!

by **Kiran Kothekar**

What pulls down the profitability of a retail chain?

Usually retail chains enjoy mark-ups varying from 30% (grocery items, other fast moving items) to 100% (fashion items) over their payouts to the suppliers. Despite such significant mark-ups, most retail chains struggle to make profits. Most shops, in a retail chain, end up doing lower than targeted ROI.

Is it because of erroneous analysis of the potential demand or cost structure growing haywire as compared to initial estimations? With the extent of knowledge of customer profile and demographics available, market estimation cannot be way off mark. Each shop is opened by a retailer chain with proper due diligence and analysis of ROI. The initial estimation of the shop related costs (rent, manpower, electricity, etc) do not increase dramatically, to wipe out the initial estimation of the shop profits. It is also fair to assume that the shopping experience was not compromised. Other factors like proper access to shop etc were well thought out or at least immediately corrected. So the only reasons to be analysed are lower sales (than estimation) or lower net realized prices from customer.

Indian Retail Industry Profitability:

Year	Net Profit Margin
2007	3.90%
2008	1.32%

Source: KPMG Study - Indian Retail

One of the most important factor determining sales from a shop is the flow of people into the store or the footfalls. It is well established that higher footfalls is positively correlated with sales. And almost every store manages good footfalls initially due to excitement generated around the new opening. The first sign of an imminent downfall is gradually reducing footfalls.

So the key question to answer is: why does the flow of people into the store decrease? Assuming there is no overall economic crisis in the market, one of the primary reasons for reducing footfalls are factors related to the most important attraction (asset) of the store: the merchandise.

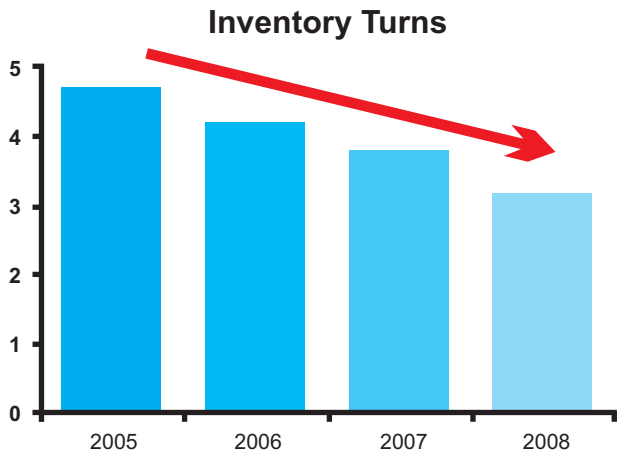
To understand the problem, let us differentiate two types of purchases (and stores) – one where the customer has a clear purchase list or in other words he knows what he wants (like grocery, stationary items or a white cotton shirt). Let us call this category as defined purchases. The other category is the one where list is not clear. Either because it is an impulse purchase item where availability triggers a demand (like chocolates or drinks) or the customer is only sure of buying a product category and would want to browse through a wide choice set before deciding on his or her final purchase (like high tech products and fashion items). Let us call this second category as the undefined purchases.

In the case of defined purchases, such grocery or stationary items, the customer would like to complete his or her shopping in one single visit. Unavailability of even a few items from his or her shopping list is viewed as huge inconvenience (as the customer has to make additional trips to another store). If unavailability, even if it is of different items at different times, is experienced regularly and if there is a nearby option, the chances that customer will try another store is very high. So the initial deluge of footfalls experienced during store opening starts dropping down. If a shop is real bad in availability, further deterioration is triggered by a negative word of mouth. As the customer flow decreases, the inventory turns decrease as the total inventory is held at same level as before and the sales have decreased. Lower inventory turns locks up the cash of the store. As inventory is not flowing as was expected, the limited capital/ budget (for a category) get tied up in items not selling immediately.

Why does a store end up in this mess of having excess of some items and stock outs of others?

Most of the merchandise to stores is based on a forecast. Forecasts, particularly for longer horizons are not accurate, as a result, some items get stocked out while other items become surplus. The need to forecast for a longer period is primarily triggered from the need to buy in high volumes to avail of best possible discounts from the suppliers. So when some items turn into slow movers, a significant chunk of capital is now locked. (Study a few stores and warehouses and you will realise how prevalent this situation is. A store will have 15 days of inventory, though the supplying warehouse is 1 day away, and even in these 15 days there will be some stocked out and some well above the 30 day level).

With his limited budget now being stuck in "not immediately selling" items, there is a high probability that the category manager (Buyer) will postpone the buying of the stocked out items, or will compromise on buying another "fast selling" item. Eventually this forced action leads to further unavailability. To release capital he has to get rid of the existing stock, and hence has to display the available range (some of which is not so popular anymore) in precious shelf space which in turn further affects sales. When he tries to get rid of the stock, the discounting reduces the net realised price as compared to the target prices.



Source: KPMG Study - Indian Retail: Times to change lanes

Let us understand the damage in the undefined purchase category where the shopping list is not final. Customers usually like to, not only see a good range but also a fresh range. So when the store inventory is stuck in non-movers, the Buyer (or category manager) either has to delay his or her next collection or sell

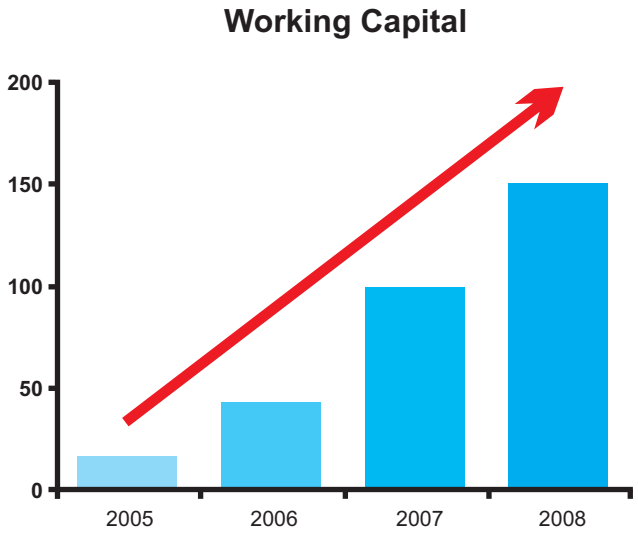
off the current merchandize at rock bottom prices to introduce his new collection, which in turn affects the realised prices. When inventory is stuck in non-moving items, the Buyer's OTB (Open to Buy) budget decreases, he or she compromises on the next collection. The compromise can be of postponing the introductions till OTB is free or reducing the range in a collection e.g. introducing 4 colours instead of 7 or reducing the number of collections. Even worse, the Buyer regularly has to declare a discounts scheme to release OTB, which affects the sale of items not on discounts as well.

With a supply chain as above, let us understand the implications of a retail chain which wants to expand rapidly despite the inefficiencies.

The most prominent strategy used by retail chains to increase sales is by expansion- ie opening new stores or adding range. When the expansion is done with same (in) efficiencies as explained above, each new shop opened, adds to the quantum of surpluses, thus increasing the absolute amount in locked capital for company as a whole. So expansions are more likely to be funded by external borrowing rather than internal accruals. This further puts pressure on profits.

The stock-outs and surpluses coupled with heavy discounts is one of the prime reasons for most retail companies not making money.

The ones which are making money have tried, with some success, to shift their sales mix to more of their in-house brands where the margins are high enough to absorb the supply chain inefficiencies. Some are trying to compensate by combining various formats to gain advantage of inherent high margins in some product categories. It is not surprising to see a grocery format retail store suddenly selling garments. Retailers are trying all these options to compensate for supply chain mess. Too many players in India have burnt their fingers. But there is an easier way to make money if retailers know how to get the basics right in their supply chains. The ones who have done it are making good money. But then there are very few of them.



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Is there a Silver Bullet?

Can we make the magic happen in retail supply chains: **near 100% availability at much lower inventory (higher inventory turns) coupled with significant jump in range at the shop**. Before trying to understand how to make it happen and its practicality, let us assess the financial impact. With improved availability, stock outs are less and lower inventory allows display of wider range in the store. It reduces the shelf space occupied by slow movers, while the fast movers get required display. The sales are bound to go up. These additional sales will come from improving the supply chain. So the additional sales will not incur additional operating expenses. Which means the entire gross contribution of the additional sales adds to the bottom line with a significant increase profits. A retail company with a gross contribution of 20%, by increasing sales by 20% (a conservative estimation of loss sales due to stock issues) through 100% availability, will double its profits (assuming current profit is at 3-4%).

In case of undefined purchase category (fashion garment or high tech retail chain) the higher sales with lower locked in capital releases OTB, which in turn leads to faster introduction of new products. The category manager or the buyer can now experiment with more range and more collections without worrying about getting stuck with an OTB limit. The experience of the customer is enhanced.

The shop in both the categories is bound to have a positive word of mouth in the neighbourhood.

How does this translate into a strategic advantage?

The limiting factor for store expansion is free capital as the most of the investment required for opening a new store is inventory. As the chains operate with about 3 to 6 months inventory and a significant portion is non- moving, free cash is surely an issue. When the chain starts to operate at half the inventory, the capital released can open nearly same number of stores as existing today. The higher profits generated the year after, increase capital significantly, thus allowing for further expansion. This means that the retail chain can fund its own growth without external help. So we have a retailer whose stores are preferred by customers and the retailer can expand freely with internal accruals.

Everything sounds good but how to make it happen?

So we have to get a forecasting tool which is accurate? Some managers think a sophisticated IT system which can forecast after considerations of all possible demand factors. But sadly such a system does not exist as forecasts can be highly inaccurate at a retail store and an SKU combination. (Chaos theory provides the theoretical explanation). *Even though most managers consider only the excess inventory as a damage of forecast, but remember, inaccuracy in forecasts is reflected in both stock outs as well as excess stocks. So a "sold out" is not a point of celebration but the other damage of a forecasting system.*

Well we cannot be perfect in forecasting but we can reduce the damage (both stock outs as well as excess inventory), if we can reduce the horizon for which one is forecasting *(predicting weather for tomorrow is more likely to be correct than doing it for a day in next week)*. So if we are able to get the replenishment lead time down, we can easily reduce the damage of forecasting.

The elements of the solution:

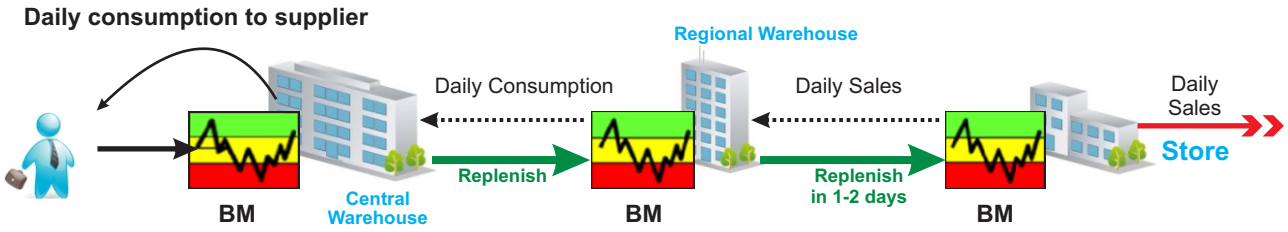
So how do we get the replenishment time down? In many cases, the store is located few hours away from the nearest warehouse and the ordering of an SKU is triggered only after a level of inventory is reached. With this way of working the ordering lead time actually adds to the replenishment time. The replenishment time becomes the addition of the Ordering Lead Time (OLT) and the Transportation Lead Time. *The OLT is the time between the consumption of the piece till it is ordered. Due to batching and administration cost considerations, the ordering is batched for a period of time. (If orders are released once a week for an SKU, the OLT is 1 week. The TLT is time taken for actual transit and the waiting time for the incoming orders to be sufficient to fill the trucks (again batching).*

The reorder point system way of working adds to the order lead time, without providing adequate protection. The assumption that the trigger of sales when the reorder point is reached, is timed properly to prevent either a stock out or prevent an excess inventory is erroneous. The sales rate assumed in the safety stock calculation is supposed to match the actual sales rate – this can happen only when the sales rate is very predictable for an SKU at the store. This, as we discussed, is nearly impossible. So the trigger for reorder tends to be either too early or too late.

Let us look at a different system of ordering.

If the store provides daily sales data, every day, the OLT can be reduced to 1 day. Orders (daily sales) of all SKUs collected every day can suffice to fill the truck in a day or two. Usually stores are supplied from a nearby warehouse, which is not farther than 1 day transportation time away. Considering these factors, the RLT is now 2-3 days. The store can start with a safe inventory of 5-6 days (per SKU) with due considerations to display requirements and known peak sales. It is now possible to claim that the store will have 100% availability at low inventory of 5-6 days. The store inventory will be more than adequate to service the peak demand in the lead time of the supply. In many stores, the lower inventory helps in improving display in shops. The store provides **daily** sales data to the supplying warehouse and the warehouse supplies immediately as soon as the truckload is reached. (Order daily replenish frequently).

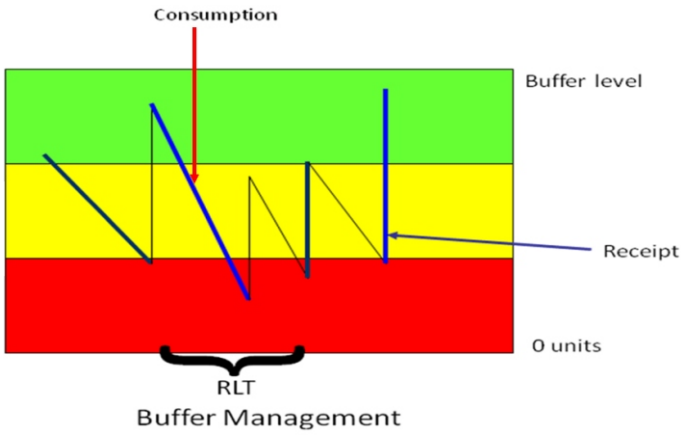
However to make this happen we need the supplying warehouse to have 100% availability. The same solution is applied for the central warehouse and regional warehouse link. The key element for these links is that the material is not pushed to the next link, but replenished as per sales / dispatches to the next link / consumer. The central warehouse should follow the same with suppliers i.e. the suppliers should supply based on the daily sales data provided by the central warehouse.



Holding the inventory at the source/ central warehouse (and replenishing only what is sold to the next link) ensures that the material is held at the point which has the highest accuracy of forecast. By the principal of aggregation, the variations in demand from the various stores are averaged out at the central warehouse. This prevents the situation of having stockout in one store and surplus in another (of an SKU).

How does one adjust to changing sales pattern?

Over a period of time, sales trends are bound to change. Rate of sales of some items will increase while for some it will decrease. So we need a good tracking system. The stock decided to be maintained (Buffer) in the store is divided into three equal zones of 33% each. The bottom most from 0% to 33% is red, the next 33% yellow and the last 33% green.



If the items remains in red for one full replenishment lead time, due to increase in sales, the stock level or buffer is increased by 1/3rd. Similarly if the stock level is in green for over 2 replenishment cycles, the buffer is reduced by 1/3rd. This simple rule allows for dynamic stock correction with change in sales rate. Since the volume of SKU-locations is huge, this dynamic review requires an automated software tool. The automated buffer review (in shorter replenishment time) across SKUs in multiple stores takes away the need of forecasting.

The buffer levels and their penetration (current stock level with reference to the 100% level) provide a way to prioritize stock movement. The items in red are expedited as they are in danger of getting stocked out. For the dispatcher in the supplying warehouse they have to look at the buffer reports of various stores everyday morning (which comes sorted on penetration in to the buffer) and prioritise the dispatches, starting with red, followed by yellow and then the green items. This ensures, in case scarcity, the stock is moved to the store which has more chances of a stock out than others.

The supply chain solution - elements

1st ELEMENT: Holding most inventory closer to the source
2nd ELEMENT: Basic formula to determine inventory levels: "Maximum" consumption within the replenishment time
3rd ELEMENT: Replenish only what is sold
4th ELEMENT: Order daily, replenish frequently
5th ELEMENT: Rate of consumption over time will be constantly monitored to adjust the buffer of safety inventory
6th ELEMENT: Make WinWin offer to suppliers to ensure that they are motivated to ensure availability at the Central Warehouse

Aligning the suppliers to new way of working

The solution requires the suppliers to supply according to the consumption of the buffers in the central warehouse. The buffer penetration is the order on them, which is conveyed to them on a daily basis. They will dispatch/produce considering truck loads, MOQs etc. As they have to supply to a central warehouse the loads can be sufficient with a very high frequency. Most suppliers usually supply more than 1 SKUs; hence the buffer report provides orders of an assortment of SKUs every day *(The buffers in the central warehouse are a function of the lead time of supply of the orders by the supplier)*. The stock buffer colour of the central warehouse provides the supplier with a mechanism to prioritize his supplies. Instead of a fixed lead time based supplies, the supplier is free to adjust based on buffer colours at central warehouse. This requires a new relationship based on transparency with the suppliers.

Obstacles on the way?

One of the main obstacles that Vector has experienced in its implementation is the ability of the warehouse to manage huge number of daily SKU level orders from the stores (pick and pack daily, many SKUs in the large warehouse). So care has to be taken to ensure processes are in place to prevent picking from becoming a bottleneck. A warehouse management system (WMS) does help. If a retail chain does not have a WMS, It is important here to ensure that the urge to have a sophisticated WMS (Warehouse Management Systems) with unnecessary features likes bin optimization, best routing etc, does not come in the way of fast implementation. A good enough solution for the need described above can be implemented in 5-6 weeks.

The solution described is the Theory of Constraints solution for the retail environment. Vector has pioneered the implementation of TOC in some of the well known retail chains of the country. With roll out of the solution, it is not uncommon to see results of doubling of range at store, with near 100% availability and almost half of the previous inventory. And a significant increase in sales!

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Vector Consulting Group (www.vectorconsulting.in) is the leader of 'Theory of Constraints' consulting in India. Vector has been working closely with some of the well known retail chains, FMCG, fashion products and auto after market companies to improve their overall profitability through supply chain effectiveness.

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