

VALUE CREATION IN INDIAN RETAILS' SCM

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Abstract

Mindscape Technopak Venture describes the landscape changes taking place in the way retailing has been traditionally perceived and executed:

Emergence of organized retail in India is bringing a landscape change in the way retailing has been traditionally perceived and executed. However, it is not just the front end that is witnessing this frenzy, but the entire supply chain is going through a dramatic development. Effective supply chain management is the backbone of retail industry and, therefore, is crucial to its performance. From a mere operational obligation, supply chain management is going to become the key competitive tool for winning the consumer.

Globally, effective supply chain management has created retail giants, Wal-Mart being the best example for this. Today, Indian retail stands at the crossroads of making key decisions regarding not only the front end but also the entire supply chain—decisions that could dramatically affect retail performance in the long run. Huge investments, government policies, third party intermediation, fast changing consumer preferences are all going to characterize this back-end revolution.

On a long term basis, supply chains would need to be made flexible, in order to respond to changes, drastic or slow, in demand, supply and technology. Further, flexible supply chains would allow retailers to tackle any dramatic events like natural calamities, terrorism, etc. Aligning the supply chain strategy to the business strategy would be of paramount importance in order to make strategic decisions more effectively, like entering new markets, new product introductions, new mode of sales, etc. Anticipating the future, and building a supply chain around it, is another way of looking at what the customer behavior would be in the long term. This research paper brings out, through several facts, figures and past experiences, the issues being faced by the Indian retailers in the development of a solid back-end and hence, important areas for them to focus on in the near future.

Value Creation in Indian Retails' SCM

Overview of Retail SCM in India

The Indian economy has been showing one of the fastest growths amongst the developing economies in the world, at 9% of the GDP (real growth rate) for the fiscal year 2006-2007, at an estimated level of INR 38,000 bn. The retail phenomenon is, and is projected to be, a major driver for this growth in the near future. Retail is estimated to be contributing 37% to the overall GDP, and is also projected to grow at 9% year on year, for

the next 5 years. The share of organized retail, currently only 4% (INR 500bn) is projected to grow at 45% CAGR for the next 5 years to 15% (INR 3100bn) of the overall retail bandwidth by the year 2012, with investments to the tune of INR 1,360 bn in the retail front end during the same period. With such high growth rates and market sizes, investment in supply chain and logistics, the retail backbone, has become imperative. The major investment areas in retail supply chains lie in the area of sourcing, distribution centers (warehouse, cold storage), transportation networks, inventory (both store level and warehouse), supply chain information systems such as warehouse management systems, planning, forecasting, inventory management, etc.

Retail chains can choose to own or outsource one or more areas in the back end starting from inbound transportation, distribution centers, or even further upstream, value-adding operations. Currently, some of the retail chains like Subhiksha have outsourced most of their back end, while some, such as Reliance, are investing heavily in the supply chain network.

Comparison and Benchmarking with International Retail Supply Chains

Retailing inherently is a difficult business. Forecasting is merely 65% accurate, up to 20% of the orders are filled imperfectly, 30% of the merchandise is sold on markdowns, 75% of the new products fail to meet expectations, net margins are low (2-3%) and inventory is high. Supply chain and logistics costs currently in some cases go up to 10% of the organized retail sales (INR 50 bn), while it is less than 5% in mature retail markets such as the USA. Thus, there is a current improvement opportunity of up to INR 25 bn. In the next 10 years, this gap of INR 25 bn could go up to INR 300 bn. On other measures of supply chain effectiveness also, Indian retailers lag behind mature markets. Indian retail chains turn their inventory much slower, and stock-out levels are also higher. Even the more established retail chains are able to turn their inventory only half as fast as retail chains in the US or the Western Europe, and stock out levels are also twice or thrice as much.

In an article titled "An Analysis of Current Supply Chain's Best Practices in the Retail Industry with Case Studies of Wal-Mart And Amazon.Com" (2005) Colby Ronald Chiles and Marguarette Thi Dau have stated that Wal-Mart has invested heavily in its supply chain and uses a number of supply chain practices to leverage its "everyday low prices" (EDLP) strategy. Wal-Mart turns its inventory 10 times a year on an average (sales/inventory); this compensates for its relatively overall lower prices, and hence lower gross profit (gross margin/sales). Pick to pallet replenishment process—picking of products at the DCs (supplying to a particular set of outlets) specific for an outlet aisle, so that each pallet that is delivered to an outlet is moved directly to the appropriate aisle to be replenished. This process allows Wal-Mart to decrease replenishment costs at the store level by increasing restocking efficiencies. The replenishment strategy is based on 3 characteristics: volume, supply and demand variability. Products with low supply and demand variability are cross docked, and lower overall inventory is maintained; products with high supply and demand variability and high volume have a higher inventory in the warehouse, and so on.

Factors Affecting Organized Retail SCM in India

a. Retail-SCM Perception and Outlook

Currently, the retail industry is channelizing most of its energy into the front-end of the retail business, which is still developing, and the back-end supply chain is not of core concern for a number of players. This is compounded by the fact that there are few SCM professionals in the country and even fewer who have an experience in the retail sector. Even amongst them, the level of process expertise and best practice skills are low. However, with the growth of organized retail and with the mushrooming of academic courses and

training programs in supply chain management and retail, a number of SCM professionals are gradually focusing more towards a scientific methodology in dealing with the back-end supply chain.

The following figure gives an illustration of the evolution of retail SCM:

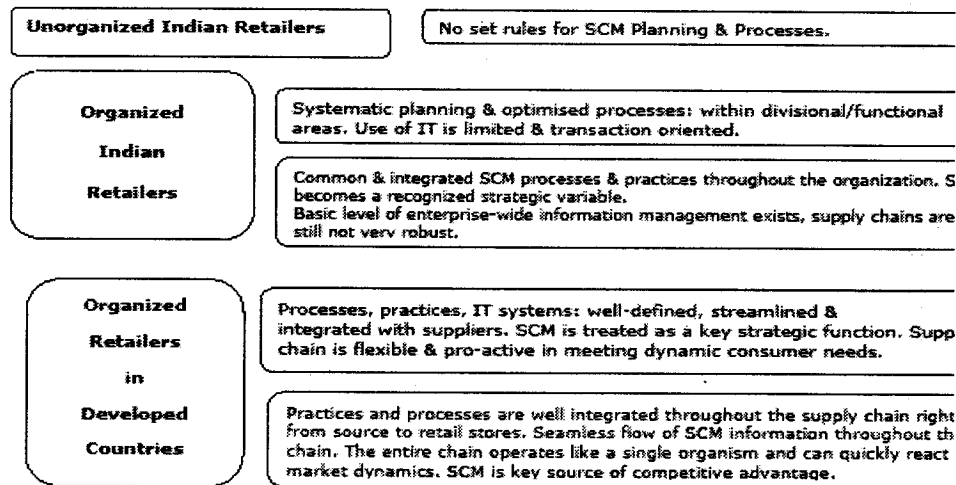


Figure-1 Retail SCM evolution Model(Source:Technopak analysis)

b. Infrastructure Hurdles

In India the logistics costs are around 14% of GDP as compared with 8% in the US. This is not a tribute to the size of the logistics sector in India, but a symptom of the inefficiencies resulting from poor infrastructure. For example, losses form 14% of the total logistics expense. Also, investment in infrastructure is less than 4% of the GDP, as compared to 9% in China. At present there is very little unused capacity in the country's warehouses. Most of the warehouses are poorly designed and operated and certainly not fit for supporting world-class retailing. Compounding the problems are ever-rising costs of energy and real estate which make logistics investments and running costs high.

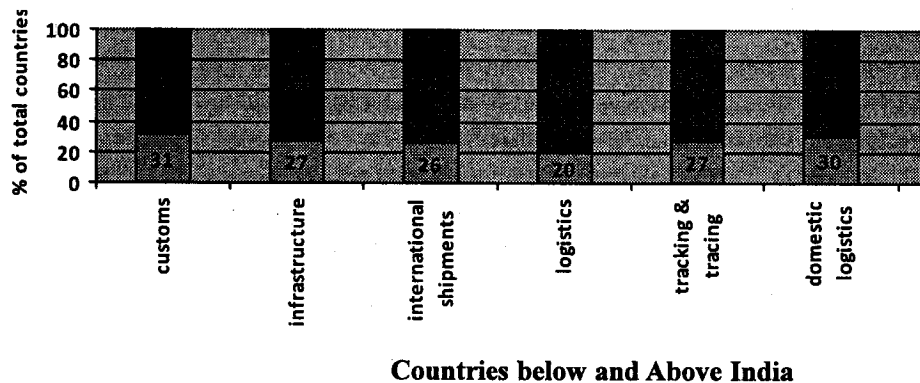


Figure 2 – Comparative Standing of India on the logistics performance indices (Source: Trade logistics in the global economy – 2009)

At present, 40% of our fresh fruits and vegetables get wasted, but cold chain development may not be viable unless incentivized by the government.

c. The Impact of VAT

The move from varying tax structures across different states and across different industries to a uniform tax structure as envisaged ultimately through central and state level Goods and Sales Tax (GST) is fraught with a number of stages of implementation, which will impact short to medium term planning and long term planning of distribution networks and sourcing decisions differently.

d. Supply Base

Besides dealing with large number of SKUs and categories, Indian retailers have to deal with a fragmented supply base and a number of intermediaries (especially non branded products), leading to low margins and fluctuation in price and availability. An illustrative example regarding fresh fruits supply chain, as well as wastage in the value chain for some fruits and vegetables is presented in the following figure:

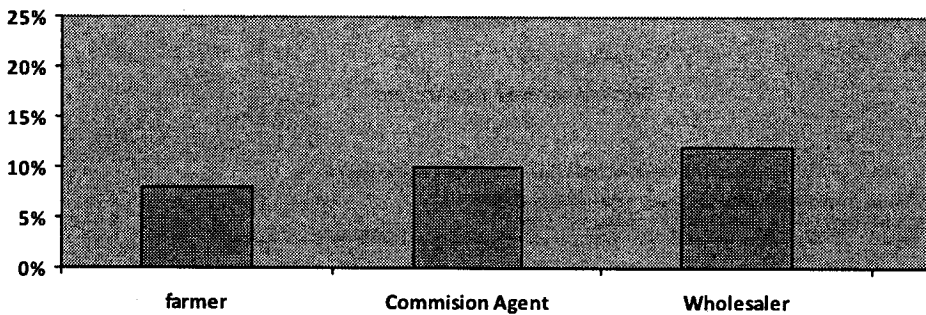


Figure 3 – Scope of Disintermediation: Case of Apples (Source: Technopak analysis)

Most food supply chains in India are congested with numerous intermediaries that add little economic value. Also, poor handling and storage causes huge wastage. Supply fluctuations, sometimes due to the intermediaries, create price uncertainties that hurt the farmer and consumers. The opportunity for Indian retailers is to buy from the right source at the right time and in the right condition so as to get the best prices for themselves and the consumers and also to minimize supply uncertainties.

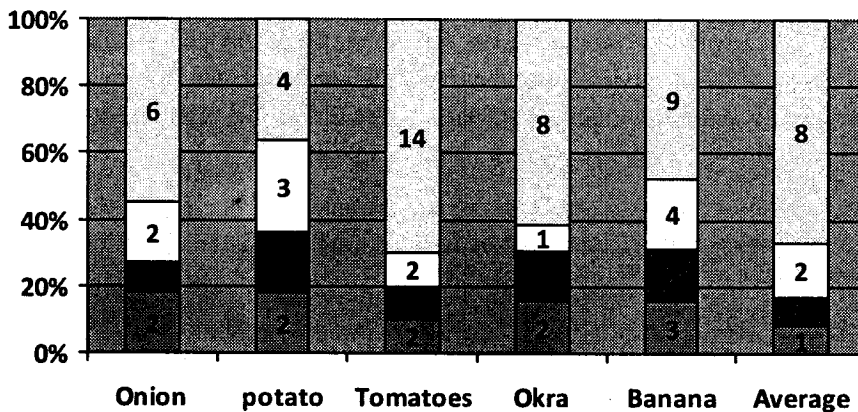


Figure 4 – Wastage at various sources of the Value Chain [% total production in India] Source: "en route" – In house magazine of group TCI (July – Sept 2009), 3.

SC Objectives

The following framework represents how the starting point (symptoms of inefficiencies) and end goals (SC objectives) are linked together. The symptoms are the effects (related to higher costs and/or lower service levels), caused by inefficient processes (pain areas). Solution to these pain areas require professional expertise in some strategic SCM area(s), the effect of which is finally linked back to the SC objectives (lower costs and/or higher service levels).

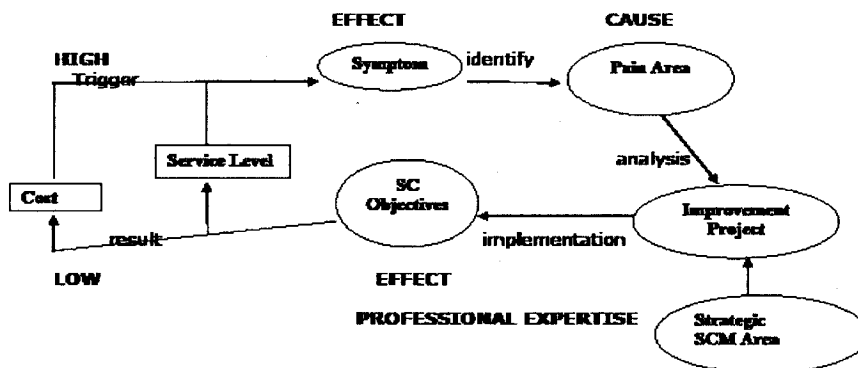


Figure 5- Retail SCM improvement framework

An efficient supply chain strategy has two tradeoffs to make:

- To reduce cost: cost of goods sold and selling expenses.
- To improve service levels: linked to increasing revenues by increasing customer satisfaction.

Symptoms and Pain Areas

The Indian retail industry is still at its nascent stages. Factors such as poor infrastructure, fragmented supply base and the absence of a mature 3PL industry compound this problem which in the end results in an inefficient supply chain. Some of the symptoms of the poor supply chain are high material costs, high transportation costs, high warehousing costs, high wastage costs, frequent stock-outs, huge markdowns, high rate of return/quality dissatisfaction, low inventory turns, etc. These symptoms are the trigger points to often larger issues such as an unoptimized distribution network, inefficient transporters, poor infrastructure, poor design and layout of DCs, absence of an inventory policy, etc. As an example, the transportation industry in India is fraught with small truckers, who add to the problem of poor infrastructure. As an estimate, approximately two-thirds of the trucking companies generating 80% of the revenues have a fleet of less than 5 trucks, and the average speed on Indian roads is 20 mph as compared to 60 mph in the West, even though India has the second largest road network in the world. As a result, lead times are high, long-term relationships are absent, and retailers hardly have any visibility of the goods being transported. Add to this an unoptimized distribution network and rising fuel prices, and the transportation costs go high as well.

IT implementation is low, e.g. Warehouse Management Systems; and the human resource is poorly trained to carry out the processes efficiently and safely. All these add up to high warehousing costs, which is further fueled by rising real estate prices.

Strategic SCM Areas

Expertise in several strategic SCM areas is required to cover the issues outlined in the previous section. Proper execution of these in the Indian context, however, is not straight forward because of the absence of historical data and good infrastructure. Indian retailers, therefore, will have to find creative ways to overcome these shortcomings. The following table outlines some of the key success factors and the impact of strategic SCM areas:

Network Design & Optimization	<ul style="list-style-type: none"> • Stock-outs, • All logistics costs, • High inventory, • Quality deterioration 	<ul style="list-style-type: none"> • Accurate data and business plans should be used • Socio-economic factors should also be considered before selecting a network • Network planning and refinement should be done periodically and systematically • Use of quantitative techniques e.g Mixed Integer Linear Programming constructs tends more accuracy to the exercise
Transport Optimization	<ul style="list-style-type: none"> • Product quality deterioration • High in-transit inventory, • Stock-outs, • Transportation costs 	<ul style="list-style-type: none"> • Effective Transport vendor management • Use of technology and tools such as vehicle tracking, Transport Management Systems etc • The freight strategy should have alternatives in place to counter poor availability of transport and transport infrastructure
Supply & Demand Planning	<ul style="list-style-type: none"> • Stock-outs, • High inventory level 	<ul style="list-style-type: none"> • Use of expert validation to system generated forecasts especially for new products and promotional products • Good data management systems to make use of historical data for planning activities • Close integration and co-ordination between forecasting and planning processes and people • Continuous measurement and improvement of forecast and planning accuracies • Use of IT tools for planning and forecasting only after thorough testing and training of personnel
Replenishment Policy and Inventory Optimization	<ul style="list-style-type: none"> • Inventory levels, • Stock-outs, • Warehousing costs 	<ul style="list-style-type: none"> • Continuous monitoring of inventory levels and throughputs of SKUs to adjust replenishment policy • Simulation modeling and good use of historical demand data for arriving at optimum inventory levels, especially safety stock levels • Supply Chain team: work closely with merchandising to be aware in advance of changes in assortment
Retail Merchandising	<ul style="list-style-type: none"> • In-store stock-outs, • Store inventory levels, • Product quality deterioration 	<ul style="list-style-type: none"> • Assortment planning: in close co-ordination with the back-end chain • Inventory and replenishment policies: synchronized with rest of the supply chain
Warehouse Design & Operations	<ul style="list-style-type: none"> • Warehousing costs, • Product quality deterioration, • Wastage costs, 	<ul style="list-style-type: none"> • Right balance of labour and automation • Designing scalability and flexibility • Extensive use of personnel training and process improvement • Lease and CFA agreement for long-term yet allowing smooth and easy exits allowing stability, flexibility and protection from rental variations at the same time • Nurturing the right 3PL relationships is of utmost importance
SCM IT	<ul style="list-style-type: none"> • Indirect impact on overall logistics costs and services 	<ul style="list-style-type: none"> • Integration of systems to gain synergies and provide information more useful for decision making • Selection and up-gradation of systems for changing needs • Good execution and project management skills in the team for meeting deadlines and expectations • Ability to quantify savings to secure funding and support in the organization SCM – IT
Procurement	<ul style="list-style-type: none"> • High material costs, • Product quality, 	<ul style="list-style-type: none"> • Extensive market and material research documented into a knowledge base • Expert negotiation skills • Disintermediation • Development of trusted suppliers over the long term Procurement

Table 1 – Strategic SCM areas

Improvement Areas for Indian Retailers

A number of opportunities exist for Indian retailers today in terms of reducing cost and improving service levels in the existing supply chains. Network design, DC design and engineering, supply chain IT systems implementation and decisions to outsource part of the network are some of the typical projects. A number of projects, including process improvement at the DC level or the store level, improving forecasting accuracy, reducing of stock, increasing sourcing efficiency, increasing product movement visibility, reducing lead time (sourcing, distribution), optimizing transportation, etc. should be on the radar of the Indian retailers for the short- to medium-term time horizon.

On a long-term basis, supply chains would need to be made flexible, in order to respond to changes, drastic or slow, in demand, supply and technology. Further, flexible supply chains would allow retailers to tackle any dramatic events like natural calamities, terrorism, etc. Aligning the supply chain strategy to the business strategy is important in order to make strategic decisions more effectively, like entering new markets, new product introductions, new mode of sales, etc.

Improvement Projects for Indian Retailers

DC design is a very important area for Indian retail today. As much as expansion of store space in the front end, requirements for back-end warehousing space have been increasing. Inefficient DC processes often lead to low availability and higher stock outs or higher-than-required inventories in the retail store.

Steps Required for DC Design

Steps required for DC design and the graphic for the sample of a DC process is shown below:

- The network modeling delivers the basic input and output flows for all the facilities.
- Basic handling steps have to be outlined within a conceptual process design.
- Designing the warehouse processes and selecting the supporting technology: traditional sources of errors have to be eliminated and the principles of zero defect operations have to be adhered to.
- For each functional area in a DC, technical alternatives have to be developed.
- The selection process also has to consider the criteria of "scalability".
- The selected individual solutions to be combined to an overall solution in the next step. Always a minimum investment alternative should be carried forward.

Figure 6 : Illustrative Supply Chain for Shampoos/Detergents

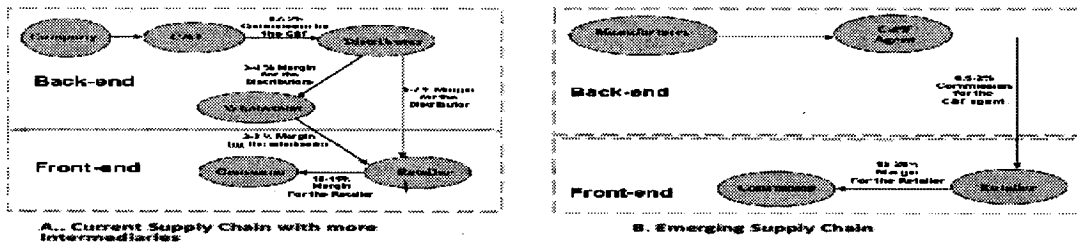


Figure 7 : Illustrative Supply Chain for Apparel

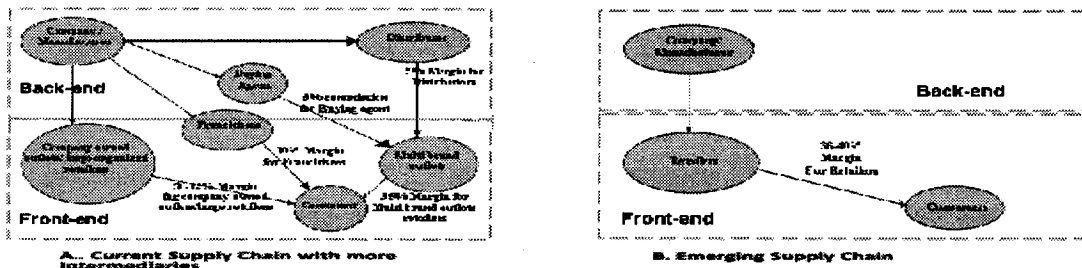


Figure 6 and Figure 7 illustrate the traditional (current) supply chain and the new supply chain that could emerge in the FMCG and apparel categories.

Works Cited

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