

A Comparative Study of SCM Practices and Performance Metrics in Brand Retailing in India: A Qualitative Insight

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Abstract

The key aim of this purely qualitative study is to study the various supply chain practices and systems in use at some of the big retail brand stores located in the National Capital Region (NCR). A sample of thirty retail brand stores representing six diverse product categories have been selected. Structured interviews were carried out with store managers of these retail brand stores. The questions aimed to study their supply chain structure, processes and key practices and compare these within their respective category. The second stage of study deals with collection of information regarding key metrics of retail supply chain performance such as broadly covered under cost, time, delivery schedule and agility. Finally, some gaps in retail brand key supply chain management practices and metrics have been identified and suggestions made to streamline various flows in retail brand supply chain.

Keywords: Supply chain, retail branding, supply chain processes, retail supply chain performance metrics

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1. INTRODUCTION

In Indian retail industry where the performance of supply chain is of paramount importance, an initiative such as technological integration in operations at different phases of supply chain has been considered crucial in making it more efficient, competitive and high performing. The retail market in India will be more competitive than ever before and hence Indian retailers have to look for new ways to compete with the best of the world. In India retail is a critical sector as it accounts for around 8% of the total employment making in the country's second largest employer after agriculture.

The Indian retail industry accounts for over 10% of India's GDP and 8% of employment. It has been growing with compounded annual growth rate (CAGR) of 7.45% since 2000. It is expected to touch a figure of US \$1 trillion in 2020. With Government now allowing 100% Foreign Direct Investment (FDI) in retail space, the FDI inflows increased from US \$537.61 Million during April 2000 - March 2016. In today's Indian markets technological and competitive forces are evolving at a very rapid pace. To respond to these complexities in market conditions, retail companies have implemented technological innovations at various points in their supply chain to gain cost advantage, speed, flexibility and overall efficiency in supply chain operations.

1.1 Metrics for Supply Chain Performance Benchmarking

According to a report by the Boston Consulting Group (2015) jointly with Retailers Association of India, India's retail market is expected to

grow from US \$600 billion in 2015 to US \$1 trillion in 2020. According to CMIE estimates, the Indian FMCG sector spends around 15% of its sales revenue on logistics. Also, close to 25% of aggregate sales is tied up in inventories in the supply chain network country wide. According to another estimate by Economic Times Intelligence Group (2002), the primary supply chain cost (from factory to warehouse or Distribution Centre, DC) is 0.7% and the cost of secondary supply chain (from warehouse to retailers) is 1%.

These values however do not have any significance unless these are compared with the best-in-class values in the relevant industry. The Supply Chain Council has suggested integrated supply chain metrics namely:

- a. Customer satisfaction/quality (Quality metrics)
- b. Time (Cycle time metrics)
- c. Costs (cost metrics) and
- d. Asset metrics e.g. inventory turnover

The present study has been done on supply chain management in consumer brand retail stores of various consumer products in an IT enabled and logistical environment. The objective is to make the supply chain visible and explore alternative ways of inventory planning, auto-replenishment, network of distribution centers, transportation and the system of reverse logistics.

2. OBJECTIVES

The following objectives have been identified for the study-

- a. To make supply chain visible among various retail brand stores and Comparisons of their processes-The primary objective is to collect data and compare different supply chain practices across various retail brand stores.
- b. Benchmarking performance evaluation of retail brand industry-The objective is to do a performance evaluation of various branded retail stores on parameters such as cost, time, delivery schedule and agility.
- c. To analyse and suggest best practices in SCM -The purpose is to identify gaps and thereby streamline various processes to effectively and efficiently manage supply chains in branded retail industry.

Table 1: List of key works done in area of supply chain (SC) practices and benchmarking

| Author(s) | Year | Research focus |
|--|------|--|
| Robert, Monczka, Trent Robert, Robert Handfield, | 2007 | - Strategic sourcing, Critical Supply Chain elements e.g. managing SC inventory and delivering perfect customer orders, SC information systems and e-commerce, Performance measurement and evaluation. |
| Robert, Trent and Robert Monczka | 1998 | -Trends and Changes in above |
| Christopher Martin | 2000 | The meaning and importance of agility, leanness, hybridization of leanness and agility and their impact on supply chains,Visibility of decoupling point |
| Beamon | 1999 | Quality, time, flexibility, cost, customer responsiveness* |
| Lamming | 1996 | |
| Waters-Fuller | 1995 | |
| Neely | 1995 | |
| Nicoll | 1994 | Rate of information flow as a supply chain performance benchmark |
| Davis, Tom | 1993 | A methodology devised by Hewlett Packard on effective supply chain network with reduction in uncertainty and reduction of overall costs. |
| Kaplan, Robert S, David P.Norton | 1992 | Balanced score card performance evaluation on basis of financial and operational perspectives, detailed account of the four perspectives such as innovation learning, Internal business perspective, financial perspective and customer perspective. |
| Lee and Bellington | 1992 | 'Trade-offs' between various supply chain objectives |

*The measure of customer responsiveness refers to lead time, on-time and available-to-promise (ATP) delivery, stock-out probability and order fill rate.

3. LITERATURE SURVEY ON SUPPLY CHAIN PRACTICES AND PERFORMANCE

The table 1 lists the key works done related to supply chain practices and metrics for supply chain performance benchmarking.

The trade-offs could be between:

- (a) Lot size - inventory level trade off
- (b) Inventory - transportation cost trade off
- (c) Lead-time - transportation cost trade off
- (d) Product variety - inventory trade off and
- (e) Production and distribution costs- customer service trade off

4. METHODOLOGY

In order to study the supply chain across various retail brand stores a set of following questions were asked through structured interviews with the store managers around NCR and Chandigarh.

- i. How is the inventory information accessed? Do all the retailers have a direct access to inventory information amongst themselves?
- ii. How is the product delivered to the consumer in case of shortage? Is it directly delivered to the consumer by the company?
- iii. How costs are adjusted and which brand store shares the cost of replacement?
- iv. How does the system of reverse logistics work in the company?
- v. Is there any system of direct warehouse/ Distribution centre (DC) based pooling or is it enabled through a hub?

- vi. Is some product identification for traceability in supply chain followed e.g. UPC (Universal Product Code)/ Bar code/RFID (Radiofrequency Identification)?
- vii. Is any system built-up in order to incorporate orders put through the online shopping portal? Is there any outsourcing for the same?
- viii. What is the system of inventory control and replenishment - manual or auto;-replenishment system (ARS) and -perpetual or periodic?
- ix. How is the obsolete inventory disposed?
- x. What is the mode of customer contact in case of replacement?
- xi. Is any store level promotion allowed?
- xii. Does the retail brand store resort to any 'trade-offs' mainly with regard to cost?

Based on the answers to these questions, a comparison has been drawn to explore various techniques or ways in which the retail brand companies have built up their network and level of customer orientation, responsiveness and service in order to increase their supply chain effectiveness, responsiveness while aiming to maximize their profits by certain trade-offs.

4.1. Primary data collection

The data was collected by face to face interview with the store managers of the outlets. A total of 30 outlets located in retail malls in National Capital Region (NCR) were studied comprising various retail brands. The store managers were extensively interviewed only once at appointed times and no follow ups were required. However, some answers needed to be validated

using subsequent phone and/or e-mail. Table 2 presents the list of such branded retail stores. The 30 retail outlets studied covered various products retail brands. 6 retail store, 3 of them

being different from earlier 30, agreed to share performance metric data in terms of cost, time, delivery schedule and agility.

Table 2: Typology of the consumer retail brand stores studied

| Pharmacy | Apparel | Electronics | Furniture | Grocery | Eye Wear |
|---------------|-----------------|------------------------|----------------|----------------|----------------|
| PH 7 Pharmacy | Shopper Stop | Croma | Pepperfry | Big Baazar | Lenskart |
| Apollo | Max | Mobility world | Evok | Reliance Fresh | Titan |
| MedPlus | Pantaloon | SRA Pvt limited | Godrej Interio | Spencers | Vision Express |
| 98.4 | Fbb | Reliance Digital | | | |
| Guardian | Reliance trends | Vijay Sales | | | |
| | Mother Care | Sargam | | | |
| | Central | Suraj Business Limited | | | |
| | Smart Shopper | Spice Hotspot | | | |

However the identity of the retailing brand company's stores in a product category has been masked in terms of A,B,C,D and so on in a random order. The supply chain management practices studied at retail brand store level covered 13 items as listed before.

5. OBSERVATIONS

The direct observations made regarding selected 12 supply chain practices related to different product categories in consumer retail brands are tabulated in tables 3,4,5 and 6.

These also make qualitative findings from the study.

Table 3: Supply chain practices in apparel retail brands

| Supply chain practice | Apparel Industry Retail Brands | | | | | | | |
|--|--|--|--|--|---|---|----------------|--------------------|
| | A | B | C | D | E | F | G | H |
| Access to inventory information | Available | Available | Available | Indirect Access | Available | Available | Not available | Available |
| Delivery to customer in case of shortage | Through other outlet or through the store itself | Through other outlet or through the store itself | Through other outlet or through the store itself | Through other outlet or through the store itself | Through other outlet or through the store | Through other outlet or through the store | Store supplies | Through the outlet |

| Supply chain practice | Apparel Industry Retail Brands | | | | | | | |
|---|--------------------------------|------------------------------|-------------------------------|------------------------|--------------------------------------|------------------------|-------------------------------|------------------------|
| | A | B | C | D | E | F | G | H |
| Credit in case of replacement | Company takes the credit | Store has to take the credit | Store takes the credit | Brand takes the credit | Brand takes the credit | Brand takes the credit | Brand replaces through outlet | Store |
| System of reverse logistics | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return |
| Inventory system; direct pooling or through hub | Pooling | Hub | Pooling | Hub | Hub | Hub | No Pooling | Hub |
| Product identification and traceability | UPC | Item Number | Bar Code | Bar Code | Bar Code | Bar Code | Bar Code | Bar Code |
| Online shopping/ Out-sourcing | No | No | No | No | No | No | No | No |
| Inventory control & audit ;Perpetual/ Periodic | Periodic | Perpetual | Perpetual | Periodic | Perpetual | Perpetual | Periodic | Perpetual |
| Re-order/ Replenishment System | Manual daily checks | ARS | ARS | Manual | ARS as the ROP reached | ARS as the ROP reached | Manual | ARS |
| Mode of contact in case of replacement | Electronic | Electronic | Electronic | Electronic | Electronic | Mail/ phone | Mail | Phone / Electronic |
| Disposal of obsolete inventory | According to the brand policy | Through the brand policy | According to the brand policy | Company policies | Discount as per the company policies | Brand policy | Brand policy | Brand policy |
| Whether promotion at store level allowed | No | No | No | No | No | Yes | No | No |
| Cost based Tradeoffs in SC performance objectives | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to |

Table 4: Supply chain practices in electronics retail brands

| Supply chain practice | Electronic Industry Retail Brands | | | | | | | |
|---------------------------------|-----------------------------------|------------------|----|-----|-----------------|-----|----|----|
| | A | B | C | D | E | F | G | H |
| Access to inventory information | Yes | No direct access | No | Yes | Indirect access | Yes | No | No |

| Supply chain practice | Electronic Industry Retail Brands | | | | | | | |
|---|-----------------------------------|--|---|------------------------|----------------------------------|---|------------------------|------------------------|
| | A | B | C | D | E | F | G | H |
| Delivery to customer in case of shortage | Direct delivery by the store | Both can go through other outlet or stores | Through the store | Through the store | From other stores | Store deliver but customer has to visit | Through the store | Through the store |
| Credit in case of replacement | Company has to take credit | Company takes the credit | Outlet takes credit, company renders the service. | Outlet takes credit | Outlet takes credit | Company takes the credit | Brand takes the credit | Brand takes the credit |
| System of reverse logistics | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return |
| Inventory system; direct pooling or through hub | Hub | Central Hub | No pooling | Hub | Hub pooling | Pooling through hub | No pooling | No pooling |
| Product identification and traceability | Barcode | Barcode | Barcode | Barcode | None Manual receipt | UPC | Bar code | Barcode |
| Online shopping/ Out-sourcing | No online | No online tieup | No online | No | No online | No online | No | No |
| Inventory Control & audit; Perpetual/ Periodic | Periodic | Periodic | Periodic | Perpetual | Periodic | Perpetual | Periodic | Periodic |
| Re-order/ Replenishment System | ARS | ARS through the warehouse | Manual order | SAP (ARS) | Manual | Manual | Manual | Manual |
| Mode of contact in case of replacement | Electronic | Phone | Phone | Electronic | Phone | Phone | Mail | Mail |
| Disposal of obsolete inventory | Company policy | Through the brand policy | D, E articles dispose accordingly | Company policies | Discount as per the store outlet | Brand policies | Brand scheme | Brand schemes |
| Whether Promotion at store level allowed | No | No | Yes | No | Yes | No | No | No |
| Cost based Tradeoffs in SC performance objectives | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to |

Table 5: Supply chain practices in pharmacy and grocery retail brands

| Supply chain practice | Pharmacy Retail Brands | | | Grocery Retail Brands | | | | |
|--|------------------------|--------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------------|------------------------|
| | A | B | C | D | E | F | G | H |
| Access to inventory information | Not available | Indirect access | Available | Available | No | Available | Available | Available |
| Delivery to customer in case of shortage | Through the store | Through the store | Through the store | Through the store | Through the store | Through the outlet | Through the outlet | Through the outlet |
| Credit in case of replacement | Store takes the credit | Store does not take the credit | No credit | No credit | Store takes the credit | Store takes the credit | Store has to take the credit | Store takes the credit |
| System of reverse logistics | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return | Customer has to return |
| Inventory system ;direct pooling / through Hub | Pooled | Pooled | Pooled | Pooled | Hub | Hub | Pooled | Hub |
| Product identification and traceability | Bar code | Bar code | Bar code | Bar code | Bar code | Bar code | Bar code | Bar code |
| Online shopping / Out –sourcing | No online | No online | No online | No online | No online | No online | No online | No online |
| Inventory control and audit; Perpetual / Periodic | Perpetual | Perpetual | Perpetual | Perpetual | Perpetual | Perpetual | Perpetual | Perpetual |
| Re-order/ Replenishment System | ARS | ARS | ARS | Manual | ARS | ARS | ARS | ARS |
| Mode of contact in case of replacement | Phone | Phone | Phone | Electronic | Phone | Phone / Electronic | Electronic | Phone |
| Disposal of obsolete inventory | Returned | Returned to ware house | Returned to ware house | Returned to ware house | Returned before expiry | Returned to ware house | Returned to the brand | Company policies |
| Whether Promotion at store level allowed | No | No | No | No | No | No | No | No |
| Cost based tradeoffs in SC performance objectives | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to |

Table 6: Supply chain practices in furniture and eye-wear retail brands

| Supply chain practice | Furniture Retail Brands | | | Eye-wear Retail Brands | | |
|---|---|--|---------------------------|---|-------------------------------------|---|
| | A | B | C | D | E | F |
| Access to inventory information | Not available | Available | Available | Available | Available | Fully accessible through central software |
| Delivery to customer in case of shortage | Online order is placed and product delivered. | Delivered through outlet | Delivered through outlet | Stores deliver by milk-run | Through outlet or customer pickup | Customer pickup |
| Credit in case of replacement | Company takes the credit | Customer if it has been delivered, store if inventory is in store. | Store pays | Company takes the credit | Outlet takes credit for replacement | Any store takes the credit |
| System of reverse logistics | Done by company using milk-run | Customer has to pickup | Customer has to pickup | Milk run pickup | Customer pickup using milk run | Customer has to return |
| Inventory system; direct pooling/ through hub | Through Hub | No Pooling among retailers | Pooled amongst retailers | Through Hub | Pooled through Hub | Pooled |
| Product identification and traceability | Bar code | Bar code | Bar code | Bar code | Bar code | Bar code |
| Online Shopping / Out- Sourcing | Online | No online | No | Yes; online shopping can be done | No online | No online |
| Inventory Control and audit ;Perpetual / Periodic | Not required | Periodic | Perpetual | Perpetual | Perpetual | Perpetual |
| Re-order/ Replenishment System | Not required | Manual after fixed interval | ARS deployed at warehouse | ARS | ARS | ARS |
| Mode of contact in case of replacement | Online | Phone | Phone | Electronic | Electronic | Electronic |
| Disposal of obsolete inventory | - | Company policies | Company schemes | Discount as per company policy | Returned to the brand | Returned to the brand |
| Whether Promotion at store level allowed | Not allowed | Not allowed | Not allowed | In terms of service promotion can be done | No store level promotion | No store level promotion |
| Cost based trade-offs in SC performance objectives | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to | Resorted to |

6. DISCUSSION ON SUPPLY CHAIN MANAGEMENT PRACTICES IN RETAIL BRANDS

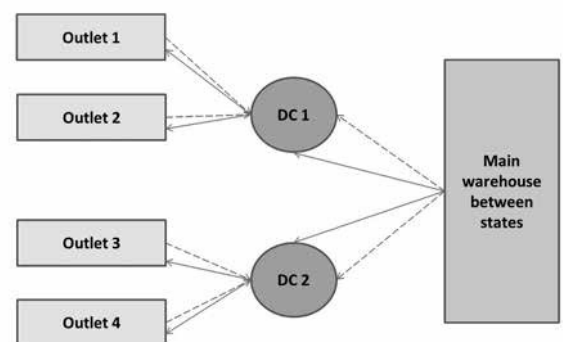
Based on the observations as tabulated, most of the industries have ARS (Auto-replenishment system) installed. The trends have changed into perpetual checks as most of the stores have deployed various softwares such as SAP in which the order is prepared or configured by a computer system integrating information about product movement (as recorded by point of sale, PoS terminal), outside factors that affect demand (such as seasonal changes), actual inventory levels, product receipts and acceptable safety stock levels. Inventory data integrity is maintained by cycle-counting. Another aspect which has been highlighted by this study is pooling as it is done by majority of the retailers, Risk pooling suggests that demand variability is reduced if one aggregates demand across locations because as demand is aggregated across different locations, it becomes more likely that high demand from one customer will be offset by low demand from another. This reduction in variability allows a decrease in safety stock and therefore reduces average inventory. However in pharmacy, pooling is not done among the retailers but it is done among the distributors of various companies individually. When it comes to disposal of obsolete inventory, most of the inventory in Pharma industry is returned to the warehouse before expiry and then redistributed to other stores, whereas in apparel industry it is disposed in discount /sale as per the company policies. At all the times, retail brand stores have to resort to one or the other kind of trade-offs between various objectives of the supply chain, the most common being between cost and responsiveness. In such a case, in today's

competitive market, for customer orientation and service, an average retail outlet would like to prioritize responsiveness whereas outlets with lower profits are in favor of prioritizing costs.

Credit of replacement is usually taken by the store in pharmacy, apparel and grocery industry. However in retailing of brand such as in furniture and electronics, at times, the credit is taken by the outlet itself but only partially. Service in long run is always rendered by the respective company as there is a system of warranty deployed in consumer durables. It has also been observed that the frequency of contact across various retail outlets is once in 2-3 days for an average outlet.

A general trend followed in supply chains in retail outlets studied can be depicted by the figure 1. All the dotted arrows depict flow of information and other arrows depict flow of inventory.

Figure 1: Supply chain network in retailing of consumer brands (DC refers to distribution centre)



The Figure 1 depicts that in most of the cases, there is a hub which is a common distribution center that supplies the various retail outlets. These hubs are present at two levels at the city level as well as the state level. The analysis is however based on the following assumptions.

- a. The information revealed by the retailer is true and close to reality.
- b. Contribution of other minor factors contributing to total supply chain cost have been considered to be of minimum or negligible value.

Using the supply chain performance measures and the analysis and comparison of these on inter-company or extended enterprise wide basis can help in implementation of a balanced score card concept (Kaplan and Norton,1992). Ultimately the performance parameters selected could be a select few critical ones only according to the strategic objectives. However, information flow and its rate across channel partners would be an important prerequisite to implementation of balanced score card approach for performance evaluation in SCM (Nicoll,1994).

6.1 Measures for Agile Supply Chains: Need in brand retailing

The need for agile supply chains arose because the conventional supply chain is not able to meet the increasingly volatile customer demands cost effectively because of fast change in the business environment e.g. consumer brands retailing. Agility is defined as using market knowledge and a virtual corporation to exploit profitable opportunities in a volatile market place. The corporate should not be only capable to cope with volatility but also exploit it to their strategic advantage, say, in terms of customer service levels (Mason-Jones et al, 2000). Needless to mention, retail supply chains have to be agile to the extent possible using the IT enabled and logistical environment.

An agile supply chain differs from a conventional supply chain in the following aspects :

- (i) Replenishment of all levels is actual point of sale (POS) data driven rather than forecast driven in a conventional supply chain.
- (ii) Stock is held only at lower level with sometimes finished goods being delivered directly from factory to customer (drop-shipping) than stock being held at multiple levels often based on legal ownership issues (in a conventional supply chain).
- (iii) Product design, development and production is planned across functional boundaries in a collaborative manner from vendor to customer with highly integrated system and minimum lead time and costs.
- (iv) Majority of stock is held as WIP stock awaiting final assembly/configuration instructions from customers (postponement) unlike in a traditional supply chain where majority of stock is held in finished goods (FGs).
- (v) Most retail companies make forecast based on past sales data rather than actual demand. Agile supply chain operates on the basis of a demandpull system triggered at customer/retailer's end. Initiatives like ECR, discussed elsewhere in the book, can transform supply chain to the pull-one by interdependent relationship.

Christopher (2000) gave the following performance parameters with respect to these four characteristics of agile firms. This is given in Table 7.

Table 7: Performance measures of agile supply chains (Christopher, 2000)

| Characteristic | Performance measures |
|---------------------|--|
| Market Sensitivity | (i) Opportunity loss for not being first to market in a product category. (ii) Number of stock-outs. (iii) Value of discount sales at the end of the reason (in case of excess stock). |
| Virtual Integration | (iv) Percentage of purchase orders made electronically/percent EDI transactions over total transactions. (v) Number and time-duration of stoppages of production runs due to material shortages. (vi) Percentage of virtual meetings of global teams during a project over total number of meetings. |
| Process Integration | (vii) Percentage of orders meeting due dates over total orders placed. (viii) Percentage of correct order fulfillment over total orders fulfilled. (ix) Total design-to-delivery cycle time. (x) Time to volume: Design Change Order, Time and cost, Data updation times and cost. |
| Network orientation | (xi) Percentage of customer orders fulfilled by manufacturing partners themselves. (xii) Reorder/replenishment cycle time (xiii) Average length of relationship time with immediate suppliers and distributor. (xiv) Cash-to-cash cycle time. |

7. OBSERVATIONS REGARDING SUPPLY CHAIN PERFORMANCE METRICS IN RETAIL BRANDS

Only six retail stores agreed to share their cost, time, delivery schedule and agility related

information. These retail brands were-Jumbo Electronics, Shopper Stop, Life Style, Reliance Trends, Mother Care and Reliance Footprint. Their identity is masked in terms of Brands A, B, C, D, E and F in a random order. The key observations are tabulated in table 8.

Table 8: Retail supply chain performance metrics in retail brands

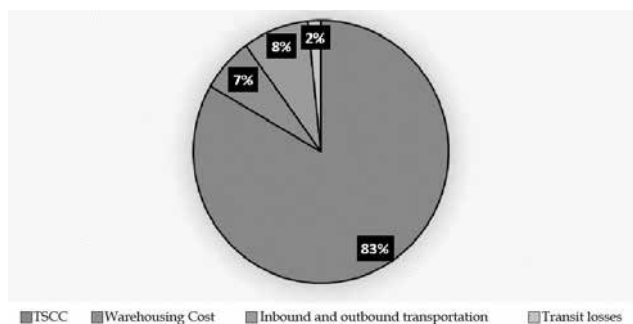
| Performance Metric | Brand A | Brand B | Brand C | Brand D | Brand E | Brand F |
|---|----------|-----------|---------------|----------|---------------|---------|
| COST | | | | | | |
| Inbound and outbound transportation (% of TSCC) | 10 % | 3 % | 4 % | 9-10 % | Not available | 7-8 % |
| Total supply chain cost (TSCC) | 15-20 % | 10 % | 10 % | 19-20 % | Not available | 21-22 % |
| Warehousing cost | 10 % | 7 % | 6 % | 10 % | Not available | 10 % |
| Cost of transit damages | 2-3 % | 1-1.5 % | Not available | 0.5 % | 2-3 % | 3-44 % |
| TIME | | | | | | |
| Time required in evaluation of supplier | 1 month | 2-3 weeks | 1 month | 3 weeks | 2-3 months | 1 month |
| Lead time | 2-3 days | 3-4 days | 1-2 weeks | 7-8 days | 2 weeks | 2 days |

| | | | | | | |
|--|---------|-----------------|-----------------|----------------|---------|-----------|
| Time in placing order | 1 week | Twice in a week | Twice in a week | Once in a week | 1 week | 2 days |
| DELIVERY SCHEDULE | | | | | | |
| Percentage of late deliveries | 4-5% | 1 % | 0.5 % | 1-3 % | 3 % | 0.1 % |
| Percentage of rejected material | 1-2% | 1-2 % | Not available | 0.5 % | 1 % | 1-2 % |
| AGILITY | | | | | | |
| Number of stock outs | 60 % | 30 % | 15-20 % | 17 % | 40 % | 30 % |
| Value of discount sales at the end of season | 8-10 % | 30-40 % | 40% | 50 % | 30 % | 40-50 % |
| Re-order/Replenishment time | 1 week | ½ week | 1 week | 1 week | 2 weeks | 1.5 weeks |
| Average relationship with the distributor | 4 years | 5-6 years | 6-7 years | 3-4 years | 1 year | 3-4 years |

7.1 Analysis on cost metrics in retail supply chains

Figure 2: Break-up of costs in brand retail industry

The pie chart depicted below is based on the cost metric information as tabulated in Table 8.



The above chart has been made with assumption that total supply chain costs (TSCC) is 100% that is the parameters such as warehousing cost, inbound and outbound transportation, transit losses are depicted in terms of percentage of total supply chain cost. It can be observed that only 2% on an average out of the total supply chain cost is consumed in transit losses, and 7-8% in each of the warehousing cost and inbound-outbound transportation.

8. DISCUSSION ON SUPPLY CHAIN PERFORMANCE METRICS OF RETAIL BRAND SUPPLY CHAINS.

Supply chain operations within an organization should be constantly reviewed to identify where improvements can be made or deficiencies eliminated. One method to help do this is to perform a series of benchmarking tests on their supply chain processes. Benchmarking or goal setting allows a company to assess the opportunities they may have for improving a number of areas in their supply chain.

The identification of the right metrics and its measurement is very critical when it is desired to do performance benchmarking of the supply chain, particularly where the supply chain of competitors are competitive. The benefits from a cost and time efficient and a trim supply chain can be directly passed on to the customer in form of faster and customized defect-free deliveries, new product configuration, taking lesser time, giving higher service levels, and a price which gives best value to customer.

Various metrics are considered while performance benchmarking such as time, costs, customer satisfaction, assets metrics. Cycle time metrics is inclusive of procurement time, production cycle time, delivery time, total cycle time, cash to cash time, supply chain

flexibility. On the basis of cost metrics, it is observed that out of the total supply chain cost (TSCC) inbound and outbound transportation have 10% of the share. Warehousing has 10-12 percent and together on an average they make up 20% which is the TSCC. Cost of transit damages are 1-2 % on an average .Other metrics such as service quality metrics is inclusive of percent of on time delivery, Percent of right quality delivery which has been stated as the percentage of late deliveries above which is 0.1-2 % on an average. Performance benchmark in purchasing is inclusive of lead time which is 2-3 days, time required in placing order which may vary from once in a week to twice in a week.

9. CONCLUSIONS AND RECOMMENDATIONS

- (i) Most of the retail outlets have deployed a cost effective system of supply chain wherein there are pooling and auto-replenishment systems deployed, but there is still scope for exploiting the use of such systems to increase the efficiency and bring about the reduction of costs in retail supply chain. Obviously, cost trade-offs are very common to be resorted by retail brand stores but these should not be done at the cost of customer service or responsiveness else these should be minimized.

- (ii) While, most of the retail outlets have considerable low percentage of transit losses, the total supply chain cost (TSCC) are varying between 19-20% which is inclusive of the warehousing cost and the inbound and outbound transportation which contribute equally to the TSCC.
- (iii) It has been observed that most of the chains have high inbound and outbound transportation therefore by pooling or by deployment of effective transport and logistics facilities these expenses can be reduced.
- (iv) The transit losses can be reduced further by increasing effective and more frequent communication, and effective planning.
- (v) The supply chains for brands retailing have to be agile. This would need significant degree of-
 - a. Market sensitivity
 - b. Virtual integration
 - c. Process Integration
 - d. Network orientation with all retail supply chain partners.

10. REFERENCES

- Beamon, B. M. (1999). Measuring supply chain performance. *International Journal of Operations & Production Management*, 19(3), 275-292.
- Boston Consulting Group & Retailers Association of India . (2015). *Retail 2020: Retrospect, Reinvent, Rewrite*. Retrieved from www.bcgindia.com/documents/file181823.pdf

- Christopher, M. (2000). The agile supply chain: competing in volatile markets. *Industrial Marketing Management*, 29(1), 37-44.
- CMIE. (2007). *Energy: February*. Economic Intelligence Service, Centre for Monitoring Indian Economy Pvt. Ltd., Mumbai.
- Davis, T. (1993). Effective supply chain management. *Sloan Management Review*, 34(4), 35-46.
- Economic Times Intelligence Group. (2002). *Supply Chain & Logistics*. Mumbai, 52-55.
- Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard measures that drive performance. *Harvard Business Review*, 70(1), 71-79.
- Lamming, R. (1996). Squaring lean supply with supply chain management. *International Journal of Operations & Production Management*, 16(2), 183-196.
- Lee, H. L., & Billington, C. (1992). Managing supply chain inventory: pitfalls and opportunities. *Sloan Management Review*, 33(3), 65-73.
- Neely, A., Gregory, M., & Platts, K. (1995). Performance measurement system design: a literature review and research agenda. *International Journal of Operations & Production Management*, 15(4), 80-116.
- Nicoll, A. D. (1994). N-9 Integrating Logistics Strategies. *International Conference Proceedings - American Production and Inventory Control Society*, (590-594).
- Trent, R. J., & Monczka, R. M. (1998). Purchasing and supply management: trends and changes throughout the 1990s. *Journal of Supply Chain Management*, 34(3), 2-11.
- Waters-Fuller, N. (1995). Just-in-time purchasing and supply: a review of the literature. *International Journal of Operations & Production Management*, 15(9), 220-236.

