

SIGNIFICANCE OF ONLINE RETAIL LOGISTIC DESIGN IN INDIAN CONTEXT

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Received: 07 Feb 2018

Accepted: 02 Mar 2018

Published: 10 Mar 2018

ABSTRACT

Post globalization and privatization era along with technological advancement has thrown open many new business segments in our country. Online retailing is one among them. Some domestic initiatives started in a modest manner had showed their strength and established the potential of online retailing. Now this segment is highly competitive as Indian arms of foreign retail giants and many Indian corporate were entered into the fray. The reports from the comparatively young industry reveals the fact that many firms, including those backed by big business houses and at the other end those who are comparatively small players, have lost their way amidst the success of a few. The cases of those who were successful expose that they have planned their logistic network in a better mode, which emphasizes the importance of logistics network design in online retailing. Even though logistic network design is not a new concept, the elements to be used for network design in the case of online retailing are to be carefully selected and planned. This paper portrays the significance of logistics network design and various elements to be taken care while designing logistic structure of an online retail firm, how big or small it is.

KEYWORDS: Online Retailing, Logistic Management, Logistic Network Design, Warehousing

INTRODUCTION

Online Retailing in India

The B2C e-commerce market in India has exhibited rapid growth and has attracted large investments during the past 4-5 years. Indian B2C e-commerce model include Online Travel, Financial Services, Online Retail, Online Classifieds and Digital Downloads. According to Deloitte India, the prominent audit and analysis firm, market share of each segment in 2013 is as depicted below:

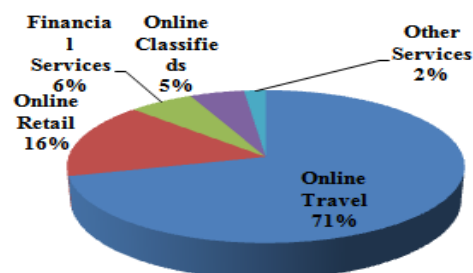


Figure 1

Online retailing is an e-commerce activity where the products and services are sold through internet to customers. Though primitive form of online retail existed there from early 1980s using television and telephone, it has become effective in 1990s after the introduction of internet using World Wide Web browser and server. The growth online retail was very slow in India during early years on account of low access to the computers and internet. This is not surprising in a country like India where majority of the population live in rural villages and a large chunk of them are illiterate. It took a decade (2000 to 2010) for the number of internet users in India to move from 10 million to 100 million (TRAI analysis). But, this figure was doubled just in another 3 years. This is thanks to the growth of another channel, namely mobile internet. Usage of smart phone alleviated the urban-rural divide. This led retailers to invest in their mobile internet applications. This channel witnessed growth of 151% in 2014 in value terms, which was stronger than the growth of overall internet retailing, at 85% during the year.

Deloitte forecast online retail market in India will grow towards USD 20 billion in 2018 from USD 2 billion in 2013.

Flipkart, Amazon, Snapdeal, Ebay, Jabong, Infibeam, Pepperfry, Naaptol, Yebhi etc. are some of the prominent online retailers in India. Many e-tailers focus on the entire range of products starting from furniture and consumer durables to FMCG products and groceries. Some are dealing only specialized products like Myntra (for the fashion and lifestyle products) and Urbanladder (for furniture segment)

The Design Concept

Design is the creation of a plan or convention for the construction of an object or system. It is a strategic approach for someone to achieve a unique expectation. It can be an engineering drawing, architectural blueprint, business process, aesthetic and functional modeling etc.

In the business, the importance of the design concept is immense. According to Ms. Indra Nooyi, the CEO of PepsiCo, “design leads to innovation and innovation demands design”.

When Ms. Nooyi was elevated as CEO of PepsiCo, she gave an empty photo album and camera to her direct reports and asked to take pictures of anything they thought represented good design. But, the response she received was not so encouraging. During the discussions, if she enquire for any suggestions on design, people would refer to packaging. She realized PepsiCo needed to bring a designer into the Company and thus famous design engineer, Mr. Mauro Porcini stepped into the Company. This had helped PepsiCo to achieve designing of new products, packaging, technology and system through innovation during the past few years.

This shows there is a fine line between design and innovation, without which it is quite difficult to have a competitive edge in the highly aggressive market.

Logistics System

The Council of Logistics Management (CLM 2003) defines Logistics as that part of supply chain process that plans, implements, and control the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements.

Any logistic system should have two advantages: 1. Service, 2. Total Cost.

'Service' part is the one which is customer oriented. It deals with satisfaction of customer requirements by seeking to achieve an agreed level of quality of customer service.

The 'total cost' concept provides opportunity to achieve the lowest possible cost for each function of logistics. It focuses on the organization and operating competency is the watchword.

Logistic Network Design

The research indicates that people prefer to buy online because of:

- *Low prices*
- *Range of products*
- *Shopping convenience*
- *Easy to compare*
- *Free shipping*
- *Time saving*
- *Easy to buy*

At the same time, as mentioned above, the firm concentrates more on service and cost part.

In his situation, to achieve the best result, it is essential for any online retailer to integrate both internal and external operations. This integration of various elements in a logistical system is known as logistics network design..

Based on the facts mentioned above, the elements related to the logistic network, which influence the effectiveness of network design shall be identified as given below:

- Inventory
- Warehousing
- Transportation
- Information

Inventory

In an online retail, the customers are generally looking for products which are not available with brick-and-mortar retailers. More precisely, we can say that the wide choice of products at lower prices coupled with convenience emerge as top reason for consumers to shop online. This reveals the importance of inventory.

Therefore, each type of inventory and the level of commitment must be viewed from a total-cost perspective which includes the cost of losing potential customers. As the distribution cost can be reduced in an online retailing by reducing the number of channels, its benefit shall be passed on to the customers at its best.

Inventory should make available and displayed in a manner so that any competing e-tailer or offline retailer could not win over the same. In view of this, it is appreciable to have the inventory sourced from local markets, SSI /Khadi units,

etc. This will help to showcase a product range other than those available from Corporates, which are easily available elsewhere. It is also good to have tie-ups with the corporate to sell their particular models or brands exclusively online. This model is very familiar with the case of mobile phones. The firms like Xiaomi, Lenovo, Motrola etc. are selling some of their mobile handset models exclusively online through e-commerce majors, either Flipkart, Amazon, com or Snap Deal.

Inclusion of products sourced from women self help groups, charitable societies/trusts and artisans of backward communities in their inventory will impart a humanitarian face to the business activities. This will also help to get acceptance in the society.

Warehousing

Online retailers are operating in India in two different models owing to various reasons: 1. Marketplace Model; 2. Inventory Owned Models. A combination of both the models is also there.

In the market place model, online retailers set themselves up as a platform for other retailers to sell products. The philosophy behind this model is that India bars foreign direct investment (FDI) in any e commerce venture that is in the B2C segment, at the same time allows 100% foreign capital in the marketplace model. In this model the online-retailer need not hold any inventory, it only provides a platform, mostly in the form of a website, for various offline retailers or manufacturers to sell their products.

In the inventory owned model, as the name indicates, the inventory is normally owned by the online retailer.

Thus, in the former case a warehousing facility is not necessary for an online retailer, whereas in the later case it is a must. The warehouses shall be either at a single place or at decentralized depots. Based on the geographical convenience, demand of the product, logistical ease etc.

It is appreciable to adopt a combination of market place model and inventory owned model if the firm is under not FDI constrain. This allow e-tailer the flexibility of having own inventory at certain extend and at the other end reducing capital investment by being acted only as a market place, saving expenditure on huge inventory and extra storage space.

Transportation

The backbone of the entire supply chain is the transportation management. Transportation provides *place utility* and *time utility* for the products. Transportation physically moves products, from where they are produced to where they are needed. This movement across space or distance adds value to products. This is the place utility. Transportation also determines how fast and how consistently a product moves from one point to another. This imparts time utility.

Speed, consistency and cost are the factors that influence transportation performance. *Speed* is the time required to complete a specific movement. *Consistency* refers to variation in the time required to perform a specific movement over a number of shipments. It is the reflection of dependability. *Cost* of transport is the payment for moving between two geographical locations and expenses related to administration and maintaining in-transit inventory.

In the case of an online retailer, the transportation mainly implies the movement of inventory from a selling point to the customer point. This is also known as *last mile logistics*.

Even high profile e-tailers, while having succeeded in offering customers inexpensive and same day delivery

options, are still struggling to maintain a last mile delivery option in a cost effective manner.

The last mile logistics is a core area as far as an online retailer iconcerns from the Indian customer perspective on account of following points.

- *Customers who used to rely much on brick and mortar firms always expect to have the purchased items immediately under their possession.*
- *Customers always expect free shipment or lesser cost delivery, low cost of the product does not have any place.*

Here inventory model has certain advantages. The physical inventory in the warehouse helps to have visibility of stock level and control the pick pack and ship process. It can optimize the dispatch time. Also, different products booked by the same customer can be clubbed together, which in turn reduce the shipment cost compared to the market place model where the different products are available with various retailers.

Market place model is also being used by many online retailers for quick delivery of the products recently. This is achieved by incorporating physical stores as their distribution nodes or fulfillment pints.

Many solutions are derived during these years to reduce the last mile delivery cost and to increase the speed. Some of them are:

- **Offering Bundled Products:** *Ex: Mobile carry case + Screen guard + Hands free code. This will help to reduce the delivery cost since it spreads over a number of products.*
- **Bundled Shipments:** *In this case shipments are postponed until multiple products can be shipped together to a particular location. Such shipment bundling can be a time consuming affair and that compromise on faster delivery. The additional amount can be charged for transportation for a speedy delivery.*
- **Appointment of 3PL:** *An effective third party logistic provider shall be appointed in many cases for last mile delivery. For small consignments like books or mobile phones the delivery through this channel is quite easy. But for bigger goods like consumer durables extra efforts have to be taken for one-to one delivery to individual households. In such cases, costs can be shared among the supply chain partners.*
- **Using Taxi Services:** *For the same day city delivery the passenger cabs in the organized sector like Uber, Ola etc. can be utilized.*
- **Own Delivery Services:** *For faster delivery some major players were already placed their hands on own delivery services. But, this may not be viable for many small players.*

Information

The technology available currently is capable of handling the most demanding information requirements. If desired, information can be obtained on a real time basis.

Two disciplines of logistics which rely on information are: a. Forecasting b. Order Management

Nowadays, online retailers are effectively utilizing the *Retail Management Information System (RMIS)* softwares to achieve the above mentioned objectives.

In the forecasting front its support to generate the data relevant to consumer interest based on their past search history. RMIS identify new customers and personalize their service, exploit the databases and utilize sophisticated data mining technique. Information gained so, also support to reduce the overstocking of the inventory by analyzing customer behavior to predict sales and market need.

Information plays a very big role in the order management part. From the e-tailer point of view, it allows to track purchase orders and update inventory records with ease. Extending dispatch and delivery tracking information to customers will provide an extra edge in the customer service and diligence.

A Case of Amazon India

Amazon India is a fully owned subsidiary of Amazon.com Inc, the largest online retailer in the world ,headquartered in Seattle, Washington, U.S.A. and founded in 1994. It launched its Indian operation in 2013. It started retailing on Amazon.in with over 12,000 movie and television titles and 7 million book titles for purchase. Later expanded into categories such as cameras and mobile phones. Now Amazon India sells almost all products through its website.

Indian FDI (Foreign Direct Investment) Rules prevent foreign retailers from owning an Indian arm for direct sales. Owing to this Amazon operates in India purely as a marketplace, rather than keeping its own goods.

During the past two years of its operation, Amazon India has developed many innovative solutions to serve its customers in a fast and cost effective manner. All these are classical example of successful logistic network design. A brief of the same is as described below:

- **Easy Ship:** Orders are placed up by Amazon's crew directly from sellers, cutting out the time and cost of sending goods to a warehouse and the need for more space. Now it is used by 75% of more than 40,000 Amazon sellers
- **Seller Flex:** It allows sellers' flexibility to store goods and ship to customers on their own, instead of routing them through Amazon. Amazon provides technology and training to ensure the goods are packed, labeled and delivered as the company would.
- **Amazon Prime:** Same day deliveries are offered in select cities.
- **Made-in-India Seller Solution:** It helps to cut down on warehousing and delivery costs for thousands of non-core products which are offered, but infrequently brought.
- **Alternative Carrier Modes:** Uses motorbikes instead of truck deliveries in the cities congested with heavy traffic (Competitor Flipkart uses the services of Dabbawala's in Mumbai.)
- **SME Promotion:** Amazon is developing technology and mobile platform to help small and medium enterprises to showcase their products in the market place. They are also on the way to reach out these inventories to the global market.
- **Amazon Web Service (AWS):** It is a separate arm of Amazon other than retailing. AWB provides sufficient backing to Amazon India to process their information service.
- **Udaan Point:** This is an initiative to go off-line across the country. It i integrates with Amazon.in in 70 cities and hence last mile pickup and delivery will be easier.

- **Amazon Branded Stores:** Amazon is tying up with small traders in Tamil Nadu and Maharashtra to help people with no internet connection to shop from the online Amazon store. It has also signed a deal with Rajasthan Govt. to open 36,000 such stores in the State.
- **Fulfillment Centers:** Amazon India has 10 fulfillment centers across nine States, covering over one million sq. ft. space.

All these prove how Amazon built their business empire in India integrating four pillars- inventory, warehousing, transportation and information.

CONCLUSIONS

In a country like India, where the consumers are enormous and their geographical spread is very vast, it is a must to plan logistic network properly for any business. It is false to believe that logistics network design is necessary only for big e-tailers. It has universal application from local small online vegetable retailer for big multi brand corporate. To be competitive in this new industry, effective logistics network design properly using information, inventory, warehousing and transportation is a necessity rather going for a routine modus of operandi. The small entrants, and offline retailers who are trying a chance in the online retailing shall properly plan the logistic network design and adapt the same for better market captivation.

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