

“Trends and Issues of Logistics Management in Healthcare Industry – An Indian Scenario”.

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Abstract

India is a place for development, it is providing space for all the new technologies and business models which is creating a new revolution all time every time. Healthcare logistics is a facility that enables the right medicines to be delivered to people who need it most. It offers a web of services and supply options that completes the functions of procurement of materials, conversion of these materials into intermediate and finished products, and the distribution of these finished products to the end customers. Healthcare logistics is about to hit the top growth heights in next decade because of its rapid advancements in technology and strategically planning.

Meantime it is also observed that the healthcare industry is undergoing major changes in all areas, from R&D practices to

how products are stored and distributed to the manufacturer; wholesaler relationship, how hospitals and chain pharmacies acquiring the pharmaceuticals on time. The outcomes of logistics decisions in the healthcare industry influences performance in several ways. The challenges encountered by logistics management in healthcare industry in India is growing at a rapid speed, giving an equal competition with the actual growth of the industry.

This paper focuses on the challenges and opportunities in healthcare and logistics management in India. The challenges faced by healthcare industries in India which comprises of quality of the product, transportation and outsourcing and at the same time the opportunities been presented to this industry are globalization, smart

communication and better customer experience.

Keywords: Healthcare Logistics, Outsourcing, Qualitative Products & Services, Globalization.

Introduction

Logistic Industry in India:

India's logistics sector is poised for accelerated growth, led by GDP revival, ramp up in transport infrastructure, e-commerce penetration, impending GST implementation, and other initiatives like 'Make in India.'

This offers opportunities across the spectrum for companies in transportation, storage, distribution, and allied services, according to a report by Motilal Oswal Securities Ltd.

Empirical evidence suggests the Indian logistics industry grows at 1.5-2 times the GDP growth. Moreover, infrastructural bottlenecks that have stifled sector's growth and promoted inefficiency are being addressed by the government.

The demanding growth in industry is due to consistent growth of Indian economy, and key industries such as automobiles, engineering, pharmaceuticals and food processing. It is projected that Indian logistic industry is expected to again a growth of 15% to 20% per annum, reaching its revenues of \$385 billion by end of 2015, according to Cushman and Wakefield report.

Indian infrastructure is getting redesigned at all modes with an objective of reducing all cost of logistics and all reduces transit time. Indian road are developing in terms of spread and capacity and today it has become a major means of freight transport contributing around 4.5% to 5% of total GDP.

Because of the growing opportunity and potential for high revenue, the ministry of railways has been taking measures to expand the rail connectivity and recapture the market share and recapture the market share of freight business. Indian Railway is repeatedly working on reducing freight cost from 61 paise per net tonne km (ntkm) in 2001 to 56 paise per ntkm in 2005 (Rastogi, 2006). And in recent present railway has announced a hike of 2% to 10% for critical items such as cement, coal, steel, and iron ore in the Railway Budget for 2015-16 since it is using railway transit to a greater extent.

For long distance transport Indian logistics relies more on waterways which carries heavy items and bulk cargos. At present Indian sea transport is connecting almost all places with a robust carries which has a high speed engines and accurate navigation systems. At times for speed transit India logistics use airways which all providing a quick lifting facility in a more economical way. Put together Indian logistics is contributing a

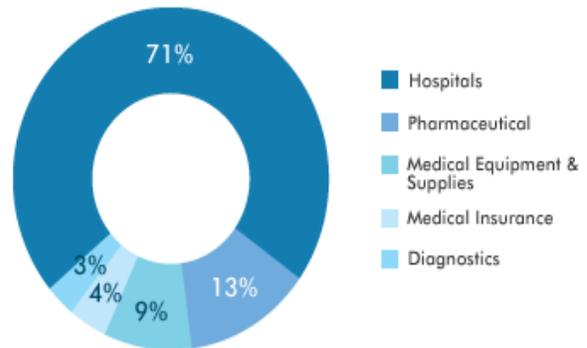
better revenue by gearing up a percentage of 13 towards the country GDP.

Health care industry in India:

Healthcare has become one of the leading and largest sectors both in terms of revenue and employment in India. This growth is because of strengthened coverage, services and increasing expenditure by public as well as private players. The industry is divided into two major categories – public and private. The government, i.e. public healthcare system comprises limited secondary and tertiary care institutions in key cities and provides basic healthcare facilities in the form of primary healthcare centers (PHCs) in rural areas. Whereas private sectors provide majority of secondary, tertiary and quaternary care institutions with a major concentration in metros, tier I and tier II cities.

Healthcare sector growth trend in India:

The Indian healthcare industry size is expected to touch US\$ 160 billion by 2017 and US\$ 280 billion by 2020. Market break-up by revenues of total healthcare revenues in the country hospitals account for 71 per cent.



Source: *India Brand Equity Foundation (March, 2015)*

India's primary competitive advantage lies in its large pool of well-trained medical professionals. Also, India's cost advantage compared to peers in Asia and Western countries is significant - cost of surgery in India is one-tenth of that in the US or Western Europe.

Regarding market size of healthcare industry in India, it is estimated that today it is up to \$79 billion, of which the hospital supplies and health care equipment segment is believed to be only around US\$ 4.5 to 5 million. The hospitals, nursing homes and diagnostics centers, and pharmaceuticals, constitute around 65% of the overall market. As the industry is growing it requires around 6,00,000 to 7,00,000 additional beds over next five to six years, which potentially throws an opportunity of more than US\$ 25 to 30 billion.

The average investment size by private equity funds in healthcare chains has increased to US\$ 20-30 million which was around US\$ 5-15 million, said Mr Abhishek P Singh, Associate Director for Healthcare, PricewaterhouseCoopers (PwC). Also the Indian medical tourism industry is pegged at US\$ 1 billion per annum, growing at around 18 per cent and is expected to touch US\$ 2 billion by 2015. Hence there is a significant scope for enhancing healthcare services considering that healthcare spending as a percentage of GDP is rising.

Rural India accounts for over 70 per cent of the population, is set to be an emerging market Indian health care industries as this population is now becoming more health conscious than before.

Review of Literature

Boucherie, R.J.; Hans, E.W.; Hartmann, T., "Health care logistics and space: Accounting for the physical build environment," *Simulation Conference (WSC), Proceedings of the 2012 Winter* , vol., no., pp.1,8, 9-12 Dec. 2012

Planning and scheduling of health care processes has improved considerably using operations research techniques. Besides analytical and optimization tools, a substantial amount of sophisticated discrete event

simulation tools supporting (re-)design of existing logistical processes in and around hospitals has been developed. Surprisingly, these studies to a large extent consider a health care facility's physical configuration to be given and fixed (unchangeable). As layout has considerable influence on the facility's logistical performance (e.g., walking distance or transportation time of hospital beds), including layout in the optimization process seems to be a natural next step in further improving the possibilities to better plan and optimize health care processes.

The review of literature further focussed to the theme paper presented for CII by **Prof. N. Viswanadham and Dr. Roshan Gaonkar** mentioned India should recognize the extraordinary role logistics plays in economic development and in enhancing the competitiveness of all the three sectors of the economy. Given the emerging business and technological trends there are possibilities for the adoption of innovative logistics solutions specifically designed for India. In addition there is a requirement for an integrated strategy towards developing logistics and IT infrastructure and also enhancing its industry base. The resources needed for wholesale development takes enormous amounts of time and resources. A planned phased approach for Integrated Logistics is needed.

Research Design**Objective of the Study:**

- ✚ To understand the transformation in current Indian healthcare logistics.
- ✚ To understand the challenges confronting the Indian healthcare logistics.

Scope of the Study:

To make a study on Indian Healthcare logistics which primarily focus on understanding the industry growth and also analyzing the hurdles which is hindering the advancement of this segment.

Limitation of the Study:

The study is limited to the healthcare logistics in India.

Healthcare logistics:

The pharma industry in India is growing at a healthy pace, and we see it growing to be in the top 10 countries in terms of exports in the next few years. And biggest challenge what healthcare industry is facing today is with logistics. Because it is critical for providing the right medicine to the right patient at the right time, place and dosage and most importantly at the right price. Since business is highly competitive today, success largely depends upon the efficiency of the supply chain.

Logistics accounts for a sizeable portion of a healthcare operations budget. It is been

estimated that around 30% to 46% of healthcare industry expenses are invested on logistical activities. The logistics in healthcare covers a wide range of services starting from purchasing, stores, managing transportation for variety of products as per their requirement and also providing inbound as well as outbound supply of materials on time.

Since this industry is gaining prime focus because of increase in health consciousness among the population, the requirement in services aspects is reaching to greater aspects. The expectation on logistics by the healthcare industry is growing instantly as with increase in number of patients. Thus a service gap is getting built day by day because of the new necessities from the developing market.

Trends and issues in healthcare logistics:

Healthcare logistics has shown a tremendous growth in past decades. Followings are the lights on recent growth in this sector:

- ✚ Critical Inventory Logistics Services are implemented in the system, which is designed to provide end-to-end solution and also optimizes the management of critical inventory and life saver drugs distribution and returns process.

- ✚ Innovative Packaging solutions and temperature-controlled ground and air transport are introduced to maintain the required temperature ranges at all points during the time of transit.
 - ✚ Special handling services for individual customer requirements
 - ✚ End-to-end solutions to handle storage, fulfilment and shipping of inventory is been enabled by integrating management information system along with that of logistics which make every transactions accurate and visible in nature.
 - ✚ Multi-channel suite of Returns Management Services is been launched which allows customers' control of the returns process.
 - ✚ The FedEx logistics has introduced Cold Chain Air Solution in India which leverages the Temp-Assured Validated Air Service, which is developed after extensive testing of temperature-controlled airfreight containers, along with thermal mapping of FedEx aircraft. The result is a validated process that provides a compliant audit trail and satisfies the demands placed on customers' temperature-controlled shipping requirements.
 - ✚ The 108 Emergency Response Service is a free emergency service which provides integrated medical services across 17 states in India. This (108) system was introduced by Ambumani Ramadoss former health minister of India and it has successful handled 5.4 lakh emergency cases in India till November 2014. The service is executed as a public-private partnership between state governments and private EMS providers.
 - ✚ Karnataka launched the much-awaited two-wheeler ambulance service on Wednesday, 15th April 2015, and became the first state to do so. The service was launched to reach patients and victims stuck in congested areas of the city, where a four-wheeler finds it difficult to navigate, especially during road accidents.
- Despite there is a great potential for healthcare logistics to grow, there are a few areas where gaps do exist and which ends up as a challenge for its advancement. Some of the major challenges that are faced by the healthcare industry are as follows:
- ✚ One of the biggest challenge that healthcare industries are facing is transportation of time dependent and

temperature sensitive drugs such as dermatological therapies, birth control pills, anti-depression drugs, neuro stimulating drugs and others are mostly heat sensitive by nature and may cause adverse reaction if consumed. Hence develop a temperature controlled carrier maintaining a temperature range of 2 °C to 8 °C has become little difficult.

- ✚ There are too many transit points in small territory that lengthens the time taken at each point, thereby making the process cumbersome.
- ✚ Long Lead Times and Delays in Procurement: Most second-line drug manufacturers employ make-to-order production—they do not start production until final purchase orders are received. Further, some manufacturers procure the active pharmaceutical ingredient for a drug only after receiving a purchase order, and there are very few sources of these ingredients for many second-line drugs. As a result of these and other factors, the procurement of second-line drugs can take up to 36 weeks after an order has been placed.
- ✚ Weak distribution infrastructure is another challenge in healthcare

logistics. The distribution network is high unorganized and the infrastructure employed is not having sufficient facilities to store and distribute the required drugs on time and on requirement basis.

- ✚ Lack of proper inventory management system: even though the current market is working in the modern era of computerization, still there are many healthcare centers and institutes which are not configured towards integrated system of supply chain management. They don't have a proper tracking mechanism to detect the consumption and expiry of products. Which is making the healthcare industry weak in its inventory management and inefficient in reaching customers on right time.

Conclusion

Strengthened coverage, services and increasing expenditure by public as well as private players in health care industry are some of the reasons which is giving a new opportunities for the healthcare logistics to grow in Indian. And this growth is expected to touch around 160\$ billion by 2017. It is also identified that Critical Inventory Logistics Services, Innovative Packaging solutions, Special handling services,

integrating management information system, etc. are some of the areas which need to be highlighted in the modern logistics models along with value added features so that, some of the great challenges confronting health care industries such as transportation of time dependent and temperature sensitive drugs , Long Lead Times and Delays in Procurement and Weak distribution infrastructure will be resolved. Thus by practicing these innovative techniques and new models of execution the major threats faced by health care logistics can be sorted out by proper inventory management with better warehousing and professionally managed infra-structure. It is also advisable that both public and private players should come with a partnership model which can bring in a revolution in Health care logistics industries of India.

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