CHALLENGES AND OPPORTUNITIES FOR ORGANIZED 3PL IN PHARMA SUPPLY CHAIN

BY

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Executive Summary

This paper aims to analyze the 3PL services in Pharmaceutical industry by understanding the challenges, difficulties and opportunities involved in the same. The paper focuses on the differences between the 3PL services in pharmaceutical domain and other domains such as retail or manufacturing. Some of those differences are:

1) Need for extreme care about contamination free delivery
2) Timely delivery to marketplaces or directly to hospitals
3) Need for flexibility in terms of capacity (varying market demands)
4) Temperature control for temperature-sensitive products
5) Strong reverse logistics

In this way, the paper analyses the key requirements for a Pharmaceutical company from a 3PL service provider. Some of those requirements include:

1) Contamination free (High Quality)
2) Delivery Ratio & Delivery Time
3) Reverse logistics should be efficient
4) Freight Charges
5) Flexibility (Timings & Capacity)
6) Past Experience

For further analysis, the paper conducts Primary Research and takes a survey of employees belonging to the Pharmaceuticals industry to understand the major parameters for selection of a 3PL vendor. Also, a relative ranking of these above mentioned parameters based on their importance is obtained through this Primary Research. Based on this relative ranking, AHP (Analytical Hierarchy Process) analysis is conducted to obtain weights for these parameters and thereby develop a model for 3PL vendor Selection.

Based on the above weights for different parameters, the performance of Mahindra logistics as well as other players in the industry is gauged. This further helped in understanding the existing gaps in Mahindra logistics and thereby suggest measures to improvise the services and be the top 3PL service provider in the Pharmaceutical industry.

Additionally, global players and best practices were considered and evaluated to suggest efficient measures to make Mahindra Logistics even better.
Introduction

Pharmaceutical Industry deals in critical products and therefore timely delivery to the marketplace becomes very important. For this reason, it is crucial to understand the logistics activities involved within the industry and make it efficient. Following are the important areas to be considered to develop a seamless and efficient logistics system for Pharmaceutical industry:

1) **Third Party Logistics Services (3PL):**

   In today’s dynamic and fast-moving global business world, a number of companies outsource their logistic functions so that they can focus on their core competences. This is achieved by deploying a third party logistics firm. Third-party logistics deals with providing logistics and fulfillment services with the aim of maximizing SCM efficiency. 3PL providers excel in inventory storage, distribution and transportation functions which are customized as per client’s needs. These needs are based on existing industry and market conditions, such as the requirements and demands of the market and delivery (service time) needs for their products.

2) **Pharmaceuticals Industry Supply Chain:**

   The pharmaceutical industries deal in intensive and critical products that need to be delivered on time because of their crucial nature. The modern supply chain within the pharmaceuticals domain is quite complex. Medicinal drugs are developed by sourcing ingredients from different locations. Transportation of components and final drugs from one destination to another can cause substandard or contaminated products to infiltrate the market. Thus, special care and attention needs to be given while designing supply chain of pharmaceutical products and therefore logistics of such products becomes a crucial activity.

3) **Global best practices:**

   Closed-loop transportation of pharmaceutical products (both domestic and global logistics) is an important feature for 3PL in this industry. This requires a seamless IT and electronic infrastructure that can connect procurement, booking, allocation, tracking & other processes. Another feature to look at is the trade compliance across borders to ensure smooth delivery of goods.
4) **Characteristics of Pharma Supply Chain:**
   The following characteristics of the Pharm Industry makes it one of a kind supply chains needing special treatment:
   - Managing Perishable Products
   - Maintaining Temperature Control
   - No or minimal control on Products once docked to wholesalers
   - Reverse Logistics of Expiry Products
   - Crisis Management in cases of epidemic break-outs and product withdrawals
   - Little Incentive to reduce Inventory due to unacceptable out-of-stock conditions
   - Counterfeit Drugs and Security
   - Complex Network Design

5) **Challenges of 3PL in Pharma industry:**
   Given the complexity as well as criticality of Pharmaceutical products and it’s supply chain, there are a few hurdles for the 3PL service providers in this domain. These hurdles arise because of the high value and need for timely delivery of products. Some of the major challenges are:

   a) On-time delivery to ensure the patients or required people have timely access
   b) Global pharmaceuticals logistics requires adherence to laws of various countries
   c) Contamination free delivery to avoid hazardous consequences
   d) Temperature compliance so that the drugs are fit to use
   e) Efficient reverse logistics to ensure expired drugs are returned to the manufacturer
6) **Opportunities for 3PL:**

Since 3PL providers specialize in this function and it is their core competency, they can serve as an effective medium for delivery in pharmaceutical supply chain activities. One important factor to note is: Pharmaceutical companies are hesitant in outsourcing the logistics activities due to fear of contamination and safety issues.

3PL providers can capitalize on the effort needed by 3PL providers to follow the rules & regulations of various countries across borders while dealing with global delivery.

Also, 3PL providers can have an integrated IT infrastructure for the pharmaceuticals manufacturer to track the delivery status of the products.
Parameters For 3PL Selection

Selection of a 3PL provider depends upon:

1) The primary needs of the company
2) Industry regulatory norms & other rules and regulations
3) Needs in terms of reverse logistics
4) Need for temperature compliance or other similar factors
5) Life-cycle stage of the company

Primary Research:

To understand the important parameters for our analysis, we conducted a survey among the executives of pharmaceutical companies such as Abbott, GSK Pharmaceuticals and Dr. Reddy’s Labs to evaluate the important parameters for deciding their logistics provider. The survey results were as follows:

The survey was taken by 26 working professionals belonging to pharmaceutical industry.

We see that ‘Quality Standards’, ‘Operational Costs’ and ‘Scalability’ are the most important factors in the same order for the pharmaceutical industry personnel while deciding an efficient 3PL service provider.
Based on the above parameters for 3PL provider selection, we try to analyze the competitive landscape and thereby evaluate the strength & weakness of Mahindra Logistics as compared to the competitors.
AHP Analysis

Through Literature Survey, eight crucial parameters used for evaluating Third Party Logistics Partner were identified. In continuation with the Primary Research, Executives from three Pharmaceutical Companies were asked to rank among the eight parameters in order of their importance while selecting a Third Party Logistics Partner. The average values were considered for relative ranking among the parameters.

Using AHP Technique, the weights for each parameter were calculated. These weights can now be used to design a score model to evaluate between different Logistic Supplier and to select the best suited among them. Quality and Cost of Operations were observed to be the most important parameters.

<table>
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While choosing between different Logistics Partners, we need to rank them in the descending order on the above eight parameters and then use the above weights to derive the best option out of them. The figure below shows how GHI is selected because of highest ranking in the top three Parameters thus leading to highest Final Score.
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<th>Quality</th>
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</table>
Competitive Landscape Analysis

Based on the AHP Analysis and identification of important parameters and their relative ranking for selection of 3PL service provider in the pharmaceutical domain, we try to understand Mahindra Logistics capabilities in each of the factor.

Also, we try to evaluate the major competitors and how they perform against each of the mentioned parameter and thereby analyze the gaps that can be overcome by Mahindra Logistics and become a market leader.

For simplicity, each of the core parameters is further broken down into sub-categories (or) key indicators for the purpose of evaluating the requirement from a 3PL provider in a better way.

1) Desired Strength Areas:

As a 1st step, we use the results from AHP Analysis to list down the parameters that have maximum weightage in selection of 3PL service provider. We find that, the following parameters have approximately 70% weightage in the selection of 3PL:

a) Quality (34.89%)
b) Cost of Operations (21.3%)
c) Scalability (13.42%)

Thus, these are our key focus areas and to be a leader in 3PL service provider for Pharma industry, we should try and gain expertise in these areas.

Moreover, the remaining parameters (Past Experience, Reverse Logistics, IT infrastructure, regulatory compliance and cold chain logistics) should also be considered and focused upon since they constitute over 30% weightage.

2) Evaluating Mahindra Logistics on above parameters:

Mahindra Logistics strives to be the most cost efficient and reliable service provider in the industry among it’s competitors. Thus, it will rank higher in the Cost of Operations parameter which has 21.3% weightage. Since, Mahindra Logistics is new to the Logistics industry, it can try and look towards expansion strategies in order to become scalable. Being scalable, Mahindra Logistics will be able to stay Flexible and cater to variable capacity transportation.

Also, capital costs for infrastructure will be high for new entrants like Mahindra Logistics.
3) **Strengths of Competitors based on identified key parameters:**

Let us understand the competitor’s strength and strategies to improvise on Mahindra Logistics’ existing processes. Some competitors of Mahindra logistics in the 3PL provider in Pharmaceutical industry are: a) GATI-KWE, b) TCI, c) DHL.

GATI merged with KWE which helped in infusion of capital costs and thereby helped in the extensive infrastructural needs. Also, this enabled GATI-KWE to improve its reach and cover 100% of India. Also, this Joint Venture helped GATI learn about global best practices and improve its quality of service.

TCI has a long range of deliverables from low end and small products to high end supply management. Thus, it becomes a favorite when it comes to selecting a 3PL provider for a diverse range of products giving it higher ranking in the flexibility parameter.

DHL’s strength lies in its easy availability and longer reach. This is because of its presence in all major parts of the country which enables manufacturers to avail their services. Also Economies of Scale enables DHL to provide low cost of Operations and hence rank better in the Score Model

Moreover, each of the above mentioned competitors’ have loads of past experience which helps them in predicting the future scenarios better.

4) **Gap Analysis:**

Since, Mahindra Logistics needs to improve its reach and cover 100% of India, it can look towards forming a Joint Venture or other means to improvise on its availability and coverage ratio in the country. This can help its scalability and also reliability.

Also, global players in the 3PL domain have been using well defined IT infrastructure which can be used for transportation and distribution functions. The technology can be leveraged to have a seamless logistics network across different geographies.

Finally, Mahindra Logistics can deploy the best qualitative principles to excel in the quality sphere since this is the most important parameter for 3PL selection among pharmaceutical companies. This will help in the scoring system and be the best 3PL service provider.
Conclusion

Logistics in Pharma is a crucial and challenging task because of the critical and time-sensitive nature of the products. Some Challenges include managing perishable goods, maintaining temperature control, degradation of medicines with time, reverse logistics of expiry products and crisis management.

Third Party Logistics has emerged as an important element of the Pharmaceutical Industry as it becomes a greater percentage of total costs. Data collection from Pharma Company Executives revealed eight important parameters to gauge performance of 3PL Partner. A score Model was prepared to evaluate and select 3PL Partner using AHP Technique. Quality, Cost of Operations and Flexibility were the most critical parameters identified.

Using the Score Model as the Framework, the following areas have been identified where Mahindra Logistics can capitalize on and be the first choice for 3PL partner for Pharma Industries in India:

1. Look for a Joint Venture to improve its reach and capabilities to achieve higher Flexibility
2. Adopt best quality practices to ensure top class service which is of paramount importance to the Pharmaceutical Industry
3. Invest in technologies like GPS and RFID to gain technological advantage
4. Improve its Cold chain arm and IT infrastructure to improve its cost efficiency and reliability

Selection of optimal 3PL provider can be further enhanced and made efficient by applying Genetic Algorithm and confirming the results using Artificial Neural Network (ANN). This will ensure that our Score Model is free from any kind of personal bias and gives the best possible option from the pool of Providers. Thereby Mahindra Logistics can be sure of the factors to work upon to emerge as a market leader.
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