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AN ANALYTICAL STUDY OF MULTIMODAL TRANSPORTATION & LOGISTICS MANAGEMENT OF PHARMACEUTICAL INDUSTRIES IN MUMBAI METROPOLITAN REGION SINCE 2006 TO 2016

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ABSTRACT:-

Multimodal Transportation and Logistics industries have grown immensely in the India. There is a lot of competition in the industry. The usage of Transportation and Logistics services has grown. This study was help in understanding the Multimodal Transportation and Logistics Management that the service provider is maintaining and also the customer loyalty. This was clear the basic satisfaction level of the customer with the existing service provider; it was also enable to understand local market feedback. It was also enable us to understand the clear position of theMultimodal Transportation and Logistics Service providers. This study was reflect the position of the market leader in MumbaiMetropolitan region.

This study was help in knowing the customer satisfaction level with the Multimodal Transportation and Logistics service providers for the MumbaiMetropolitan region. Also this was help in understanding the activities and that the service providers have adopted to increase the customer loyalty.

KEYWORDS : *market leader , Multimodal Transportation and Logistics industries .*

INTRODUCTION

The whole Multimodal Transportation and Logistics of a Pharmaceutical company from the manufacturer's point of view can be generally divided into two parts, inbound logistics which is from the supplier to manufacture plant and outbound logistics which is from manufacturer to customers or even to end consumers. In the past few years, a lot of studies have been made on the outbound logistic area. Since the outbound operations have been streamlined and extracting extra benefit has become more and more difficult, companies are turning their attention to inbound operations. In the following study, we are going to focus on the inbound logistic area and expect to explore something new in this field. Logistics systems theoretically consist of two parts, the information flow and the physical material flow. The information flow includes production plan, material requirements, and delivery schedules, etc. The smoother the information flow, the earlier information can be reached. Thus the logistic providers can fulfill quick response according to customer requirements. Finally, the negative lead-time (lead time without any value-added) can be reduced as well as the total logistic cost. But the level of information sharing is, to a great extent, determined by the relationship among companies.

The Mumbai region working some leading third-party-logistic provider is actively developing relationships with its key accounts to improve its service level with streamlined information flow. Our task is to map an ideal inbound logistic system with which the integrated effectiveness and efficiency can be reached so that all

the participants in the supply chain can benefit. In order to solve the main problem of how to improve the effectiveness and efficiency in the inbound logistic system, several sub-problems need to be solved step by step. Firstly, the unique features of the inbound logistic system are going to be studied. This was provide us with a better understanding of the inbound logistic systems. Secondly, the parameters that can be used to evaluate the effectiveness and efficiency of the logistic system need to be selected. Thus, the potential Multimodal Transportation and logistics management solutions could be compared with each other and the improvement of potential solutions could be measured as well. Thirdly, it is necessary to make case studies on mapping how the inbound logistic system looks like in practice, which was promise the practicability of this study.

MULTIMODAL TRANSPORTATION IS ECONOMICALLY EFFICIENT

Table 1: Opinion of pharmaceutical companies regarding economic efficiency of multimodal transportation

Multimodal transportation is economically efficient	Frequency	Percent
Strongly Agree	776	86.2
Agree	124	13.8
Total	**900**	**100**
Chi Square Value	**472.338**	
Degrees of Freedom	**1**	
Significance	**0.000 (<0.05)**	

Above Table 1: shows opinion of pharmaceutical companies regarding economic efficiency of multimodal transportation. It is evident from the information that 86.2% pharmaceutical companies strongly agree regarding economic efficiency of multimodal transportation. Though 13.8% pharmaceutical companies agree regarding economic efficiency of multimodal transportation. The result of non-parametric chi square test shows that there is significant (Chi Square- 472338; df- 1; P<0.05) difference among pharmaceutical companies in Mumbai Metropolitan with respect to Opinion of pharmaceutical companies regarding economic efficiency of multimodal transportation.

MULTIMODAL TRANSPORTATION IS VERY IMPORTANT FOR PHARMACEUTICAL COMPANIES

Table 2: Opinion of pharmaceutical companies regarding importance of multimodal transportation for pharmaceutical companies

Multimodal transportation is very important	Frequency	Percent
Strongly Agree	724	80.4
Agree	176	19.6
Total	**900**	**100**
Chi Square Value	**948.187**	
Degrees of Freedom	**1**	
Significance	**0.000 (<0.05)**	

Above Table 1 shows opinion of pharmaceutical companies regarding importance of multimodal transportation for pharmaceutical companies. It is evident from the information reported that 80.4% pharmaceutical companies strongly agree regarding importance of multimodal transportation for pharmaceutical companies. However, 19.6% pharmaceutical companies agree regarding importance of

multimodal transportation for pharmaceutical companies. The result of non-parametric chi square test shows that there is significant (Chi Square- 948.187; df- 1; P<0.05) difference among pharmaceutical companies in Mumbai Metropolitan with respect to opinion of pharmaceutical companies regarding importance of multimodal transportation for pharmaceutical companies.

Table 3: Opinion of pharmaceutical companies regarding easy availability of resources for multimodal transportation in the region

Resources for multimodal transportation are easily available	**Frequency**	**Percent**
Strongly Agree	784	87.1
Agree	116	12.9
Total	**900**	**100**
Chi Square Value	**495.804**	
Degrees of Freedom	**1**	
Significance	**0.000 (<0.05)**	

Above Table 3: shows opinion of pharmaceutical companies regarding easy availability of resources for multimodal transportation in the region. It is evident from the information reported that 87.1% pharmaceutical companies strongly agree regarding easy availability of resources for multimodal transportation in the region. Though, 12.9% pharmaceutical companies agree regarding easy availability of resources for multimodal transportation in the region. The result of non-parametric chi square test shows that there is significant (Chi Square- 495.804; df- 1; P<0.05) difference among pharmaceutical companies in Mumbai Metropolitan with respect to opinion of pharmaceutical companies regarding easy availability of resources for multimodal transportation in the region.

Table 4: Opinion of pharmaceutical companies regarding ease in supplying goods on time to customers through multimodal transportation

Multimodal transportation provide ease in supplying goods on time to customers	**Frequency**	**Percent**
Strongly Agree	784	87.1
Agree	116	12.9
Total	**900**	**100**
Chi Square Value	**495.804**	
Degrees of Freedom	**1**	
Significance	**0.000 (<0.05)**	

Above Table 4: shows opinion of pharmaceutical companies regarding ease in supplying goods on time to customers through multimodal transportation. It is evident from the information reported that 87.1% pharmaceutical companies strongly agree regarding ease in supplying goods on time to customers through multimodal transportation. Though, 12.9% pharmaceutical companies agree regarding ease in supplying goods on time to customers through multimodal transportation. The result of non-parametric chi square test shows that there is significant (Chi Square- 495.804; df- 1; P<0.05) difference among pharmaceutical companies in Mumbai Metropolitan with respect to opinion of pharmaceutical companies regarding ease in supplying goods on time to customers through multimodal transportation.

Logistic Management

This section shows results of analysis of data collected from Pharmaceutical companies in Mumbai Region pertaining to Logistic Management

FREQUENCY OF USING LOGISTICS SERVICE

Table 5: Information regarding frequency of using logistics services by pharmaceutical companies in Mumbai region

Frequency of using logistics service	Frequency	Percent
Daily	666	74.0
Once in a Week	215	23.9
Once in a month	19	2.1
Total	**900**	**100**
Chi Square Value	**796.178**	
Degrees of Freedom	**2**	
Significance	**0.000 (<0.05)**	

Above Table 5: shows information regarding frequency of using logistics services by pharmaceutical companies in Mumbai region. It is apparent from the information reported that frequency of 74.0% pharmaceutical companies uses daily logistics services in Mumbai region, Though frequency of 23.9% pharmaceutical companies uses once in a week, furthermore frequency of 2.1% pharmaceutical companies uses once in a month. The result of non-parametric chi square test shows that there is significant (Chi Square- 796.178; df- 2; P<0.05) difference among pharmaceutical companies in Mumbai Metropolitan with respect to information regarding frequency of using logistics services by pharmaceutical companies in Mumbai region.

Table 6: Information regarding logistics service providers of pharmaceutical companies in Mumbai Region

Logistic Service Provider	Frequency	Percent
VRL	5	0.6
Blue Dart	61	6.8
TVS	6	0.7
APT	4	0.4
Gati	69	7.7
Safe Express	16	1.8
DHL	346	38.4
RCPL	89	9.9
Others	493	54.8

Above Table 6: shows information regarding logistics service providers of pharmaceutical companies in Mumbai region. It is apparent from the information reported that 54.8 % pharmaceutical companies uses, Other logistic service provider, where as 38.4% pharmaceutical companies uses, well known logistic service provider like DHL. However, 9.9% pharmaceutical companies uses RCPL logistic service provider. Furthermore, 7.7% pharmaceutical companies uses Gati, lsp, 6.8% pharmaceutical companies uses Blue Dart Lsp, 1.8% pharmaceutical companies uses Safe Express Lsp, 0.7% pharmaceutical companies uses TVS Lsp, 0.6% pharmaceutical companies uses VRL Lsp, 0.4% pharmaceutical companies uses APT logistic service

provider, respectively It is apparent from the above information that substantial percentage of pharmaceutical companies uses Other logistic service provider in Mumbai Metropolitan.

Table 7: Opinion of companies about giving preference to particular logistic service for different region

Preference to particular logistic service	Frequency	Percent
Yes	855	95.0
No	45	5.0
Total	**900**	**100**
Chi Square Value	**969.767**	
Degrees of Freedom	**1**	
Significance	**0.000 (<0.05)**	

Above Table 7 shows Opinion of pharmaceutical companies about giving preference to particular logistic service for different region. It is evident from the information reported that, opinion of 95.0% pharmaceutical companies giving preference to particular logistic service for different region. However, opinion of 5.0% pharmaceutical companies is not giving preference to particular logistic service for different region. The result of non-parametric chi square test shows that there is significant (Chi Square- 969.767; df-1; P<0.05) difference among pharmaceutical companies in Mumbai region with respect to Opinion of pharmaceutical companies about giving preference to particular logistic service for different region.

Conclusion:-

The multimodal transportation is economically efficient for substantially high percentage of pharmaceutical companies in Mumbai Metropolitan and substantial percentage of pharmaceutical companies giving preference to particular logistic service for different region. It is apparent that substantial percentage of pharmaceutical companies using daily logistics services in Mumbai Metropolitan. That resources for multimodal transportation are easily available in the region for substantially high percentage pharmaceutical companies, in Mumbai Metropolitan. That multimodal transportation provide ease in supplying goods on time to customers of substantially high percentage of pharmaceutical companies, in Mumbai Metropolitan and multimodal transportation is very important for substantially high percentage of pharmaceutical companies in Mumbai Metropolitan.

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