A STUDY ON CHOICE OF TRANSPORTATION MODE IN LOGISTICS INDUSTRY AT CHENNAI

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Abstract: Today the responsibilities of business executives have become critically important due to technological advancement, we have done some data collection for our project research. This study is based out of primary and secondary research; carried out that would help to gather fresh data which can be analyzed with the past data to seek the inferential analysis viz., Chi-square Test, ANOVA, Correlation. The results of these study shows positive results which is beneficial for the companies as the existing trends in logistics industry. we used a questionnaire as a tool for gathering data. The respondents were selected randomly from the Chennai customer list provided by the companies. The research questions are set to be asked to the Clients of Logistics companies. Secondary data is nothing but we collected some data from internet sources, magazines and newspapers which have been helpful in getting an insight of present scenario. The sample sizes of 120 respondents are interrogated and the results are analyzed using various respondents are satisfied and they are loyal to the companies

Keyword: primary research, secondary research, questionnaire for gathering data, internet sources, magazines, newspapers and inferential analysis.

I. INTRODUCTION

In this modern world of globalization everything is changing day-by-day, as innovation is the rule of nature. There is a tremendous change in consumer's buying behavior also. Now everywhere consumers are more conscious about their purchasing. Now they are more aware and more educated. Per person income is also increasing and it is the reason now people are spending more.

Logistic helps in productivity and growth in the "Industry 4.0" era, which is characterized by pure digital technology. Transportation is a system of goods movement in order to minimize cost maximize service to the customers that constitutes the concept of business logistics. Production or manufacturing process and material handling takes place within the plant and plant inventory. Warehousing services is provided between plants and marketing outlets involved separate transport.

The manufacturers limits themselves to the production of goods, leaving marketing and distribution to other industries. Warehousing and storage can be considered in terms of services for the production and shipping process and for product distribution. These developments will make some improvement in logistics performance.

Statement of the problem

This study speaks about the current status of customer choice towards the transportation services of Logistics companies. Challenges and requirements of planning for logistics companies are also discussed. Many of the logistics and supply chain companies are using latest transportation modes to maintain the effective process of transportation. The project speaks about the causes and effects of transportation system adopted in Logistics companies. Logistics companies are facing troubles in maintaining their systems effectively due to various reasons. Technology is a boon to them.

Objectives

Primary Objective

To study the effectiveness of customer choices regarding the transportation modes and services offered by logistics companies

Secondary objectives

- ✓ To study the satisfaction level on the efficiency of internal operations of the logistics company
- ✓ To know the satisfaction level towards services provided by the company
- ✓ To understand the changes that are expected from the company
- ✓ To find the overall satisfaction level towards the booking and delivery process of logistics companies

II. REVIEW OF LITERATURE

V. Zeimpekis & G. M. Giaglis (2003), the issue of buyer-seller relationships in supply chain management research is becoming increasingly critical. Contemporary global markets, with their characteristics such as smaller and variable productions, rapid market changes and shorter lead times, represent a fundamental shift from a linear, sequential supply chain to an adaptive, agile supply chain network. In this context, the improvement of inventory management in warehouses and distribution centres appears to be a must, and wireless technology can be an effective solution to enhance business operation. This paper aims to improve current warehouse management practices by proposing an on-line, real-time hybrid wireless system that will facilitate the control of inventory operations and will be able to fulfill domestic and international customers' needs, more effectively.

TarunRadadiya (2015), logistics is traditionally driven by operational demands. Therefore innovations are mainly based on direct customer requests. However, logistics service providers (LSPs) have started to realize the importance of proactive innovation and advance technology to improve competitiveness. The development of new service concepts enables LSPs to increase customer Satisfaction and strengthen their competitiveness. Due to the fact that services cover specific Characteristics, their development differs from traditional product development and requires adapted innovation and advance technology management processes. The production of services requires the participation of customers.

Peter Kolarovszki, JurajVaculík (2013), in his words described this article as RFID technology in conjunction with warehouse management systems. Article also deals with automatic identification and data capture technologies and each processes, which are used in warehouse management system. It describes processes from entering goods into production to identification of goods and also palletizing, storing, bin transferring and removing goods from warehouse. Article focuses on utilizing AMP middleware in WMS processes in Nowadays, the identification of goods in most warehouses is carried through barcodes. In this article we want to specify, how can be processes described above identified through RFID technology. All results are verified by measurement in our AIDC laboratory, which is located at the University of Žilina, and also in Laboratory of Automatic Identification Goods and Services located in GS1 Slovakia. The results of our research bring the new point of view and indicate the ways using of RFID technology in warehouse management system.

Kshitija Deshmukh, Ashitha Ann Santhosh, Yogesh Mane, SaurabhVerma, SadhanaPai (2015), the improvements that can be made to present day warehouses by making it completely automated. Every single activity related to the warehouse would be performed without any human intervention. The warehouse management system consists of a 3 wheeled robot which navigates through the entire warehouse and transports the cartons from one point to another. The system also provides an efficient, fast and precise inventory management procedure. The dealers access the warehouse by means of application created specifically for the warehouse.

Levaet.al., (2013), in her article analyses customer satisfaction with logistics services; however, considerable attention is paid specifically on their quality. This activity is part of service industry, whose main feature is that the origin of a service is caused by consumer demand and its recognition – by customer satisfaction. Customer satisfaction is very important for logistics companies seeking competitive advantage, because they realize that if they do not satisfy the expectations of customers, their place will be taken by other companies whose activities will be more concentrated on customer expectations. Therefore, logistics companies must ensure every customer service related aspect, no matter what it includes: acceptance of orders, their execution or the solution of problems. A client of a logistics company must be sure that the chosen company understands his needs. Considering this, the article presents the results of the research related to customer satisfaction with logistic services and their quality.

Frank W. Davis and Karl B. Manrodt, (2013), The Council of Logistics Management has commissioned a study to determine the potential of applying logistics principles in service organisations. The authors suggest that logistics principles are even more important in service organisations than in production firms. To realise this potential, however, the definition of logistics must be expanded. Service logistics is defined as the management of activities which respond to customers on an individual basis. The services' historical underpinnings are examined and some guiding concepts central to service response logistics are provided. These concepts include the benefit delivery, delivery processes, delivery orientation, responsive planning, and a customer service model that focuses on individual customer needs.

Azlan et al., 2014, Logistics is a backbone for the global supply chains. In Malaysia, logistics are now recognized as strategic industry that positively contributes to gross domestic product (GDP) and performance of logistics is foremost significant, whereas most of the logistics performance has focused on investigating operational and trade facilitation context. Thus, the purpose of this paper is to examine the issues and reviews by practitioners and found 7 key components that translated it into operations performance objectives. It, thus, provided a base for future research to examine the relationships of this context empirically.

Karin Isaksson and Maria Huge-Brodin, 2013, Awareness of environmental impacts on our society is increasing among companies. In order to turn environmental problems into business opportunities, many companies are beginning to consider how environmental or green aspects can be integrated into their service offerings. This opportunity can be of specific interest to logistics service providers, whose core business is an environmental impact in itself. The purpose of this article is to indicate where green-labelled logistics service providers are positioned today in their development, and to seek the underlying rationale in development of green service offerings. This article takes a logistics service provider's perspective and is based on a multiple case study of 6 companies. The analysis is based on cross-case analysis, and empirical, as well as theoretical, pattern matching. The attitude towards a green approach differs among the case companies: while some are working towards a green integration throughout the entire business, others offer green alternatives to the original service offering. The results point to possible explanations for these differences, and include differences in range of service offerings, size, and to different management principles for green aspects. This article can inspire logistics service providers in their continuing work to integrate green initiatives into the company. By introducing alternative green approaches in the development of service offerings, logistics service providers can match their own business and context with alternative rationales. While most of the green logistics research focuses on the logistics system's characteristics, this article offers initial insights into how the integration of green aspects into logistics services can impact logistics service providers.

Seoket.al., 2016, The study aimed to find out which logistic service factors affect the field and administrative staff's perception of service quality satisfaction. It also tried to find out if there was a difference in perception due to job-type. As the result of analysis, the following implications can be gained. First, independent sample t-test results showed that based on the job types; there is an average difference on economic feasibility, stability, and service satisfaction. Second, the results showed that service quality factors all have a positive influence on service satisfaction. Third, although there was difference in view between field staff and

administrative staff on each variable, there was no moderating effect between service quality including each subordinate factors and service satisfaction.

Tseng et.al., 2005, The operation of transportation determines the efficiency of moving products. The progress in techniques and management principles improves the moving load, delivery speed, service quality, operation costs, the usage of facilities and energy saving. Transportation takes a crucial part in the manipulation of logistic. Reviewing the current condition, a strong system needs a clear frame of logistics and a proper transport implements and techniques to link the producing procedures. The objective of the paper is to define the role of transportation in logistics for the reference of further improvement. The research was undertaken to assist logistics managers, researchers and transportation planners to define and comprehend the basic views of logistics and its various applications and the relationships between logistics and transportation.

Maria Rybalko, 2012, The main current focus of supply chain management (SCM) is the creation of longterm, mutually beneficial relationships between a company and other participants in the supply chain. Strategic partnerships are a key factor in the effectiveness of the business of a company as a whole. The market of integrated services in the SCM sphere is developing rapidly, and these services themselves are becoming more complex. A growing market should offer different models of strategic behaviour by suppliers of logistics services. One of these models is that of partnerships. Industry journals and press releases today often report the creation of "logistics partnerships". In this context, "logistics" is understood as a sphere of strategic importance and the source of competitive advantages, where supply chain participants cooperate closely not only with their suppliers and consumers, but also with providers of logistics services.

Vinh V. Thai, 2013, there has been very little research done in logistics service on how its quality is defined and attributed. In this paper, we aim to explore the definition of the concept of quality in logistics service and its associated dimensions by constructing a conceptual model and test it empirically. A survey was conducted in Singapore with 2,333 logistics service providers and customers from Singapore Logistics Association and Singapore's National Shipper Council. A total of 171 questionnaires including 86 from logistics service providers and 85 customers were returned. After the process of Exploratory Factor Analysis (EFA) followed by Confirmatory Factor Analysis (CFA), we found that the revised model of five factors and 20 items of logistics service quality is valid and reliable to measure the quality of logistics service. It was also indicated from the study that quality of customer focus is deemed the most critical to enhance the perceived logistics service quality.

KonstantinosSelviaridis and Martin Spring 2007, to provide taxonomy of third party logistics (3PL) research and, based on that, to develop a research agenda for this field of study. The proposed 3PL research classification framework is based on a comprehensive literature review, which concentrates on peer-reviewed journal papers published within the period 1990-2005. A total of 114 academic sources have been retrieved and analysed in terms of research purpose and nature, method employed, theoretical approach and level of analysis. Findings – The review reveals that 3PL research is empirical-descriptive in nature and that it generally lacks a theoretical foundation. Survey research is the dominant method employed, reflecting the positivist research tradition within logistics. It identifies certain knowledge gaps and develops five propositions for future research. It suggests that focus should be directed towards more normative, theory-driven and qualitative method-based studies. It also argues that further empirical research in relation to 3PL design/implementation and fourth party logistics services is needed. This paper fulfills an identified need for a comprehensive classification framework of 3PL studies. It essentially provides both academics and practitioners with a conceptual map of existing 3PL research and also points out opportunities for future research.

III. RESEARCH METHODOLOGY

Research is carried out within most occupations. It is a way of accepted level-headedness when compared to a set of skills, examining significantly the various facets of your professional work.In the study, the various methods and measures are adopted by a researcher in analyzing the research problem in line with the logic guiding the research. It is essential to know not only the research methods/techniques but the mode in which this will be carried out. They should be able to evaluate the research by developing tests. In order to satisfy the objectives, the descriptive research methodology is doled out. The main aim of descriptive procedure is to give a description of the as-is state of affairs. Hence it will be most suitable for the analysis taken for study. The main features of this methodology is that the researcher has no control over the elements, but can only report what has been happening or what was found during the study. The primary aim is to study the effect of transportation on the customers of Logistics companies. The data collected will be analysed and results will be ascertained.It is a way of accepted level-headedness when compared to a set of skills, examining significantly the various facets of your professional work. In order to satisfy the objectives, the descriptive research methodology is doled out. The main aim of descriptive procedure is to give a description of the as-is state of affairs. The main features of this methodology is that the researcher has no control over the elements, but can only report what has been happening or what was found during the study. The chi- square test is applied to nominal data. Using this test we can compare the data collected with the expected data and draw the Interpretation from it.

Descriptive research includes surveys and fact-finding enquires of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. The main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening. This project involves descriptive research for data collection.

Sample Size The research questions are set to be asked to the 150 employees of Client organizations of logistics companies.

3.1 SAMPLING METHODS

A Sampling frame is the set of source materials from which the sample is selected. The purpose of sampling framework is to provide a means for choosing particular members of the target population that are to be interviewed during the data collection. The sample frame must be the representative of the population. Here, the target population is the people working in Logistics companies. The sampling frames are chosen such that it covers all the departments' customers of Logistics companies. Sampling can be defined as the section of some part of an aggregate or totality on the basis of which judgment or an inference about aggregate or totality is made.

3.2 DATA PROCESSING

Primary data: Primary data was collected with the help of questionnaire survey with the customers of Logistics companies.

Secondary data: Secondary data was collected by external sources like books, newspapers and journals; new age sources like the internet. Some White papers and articles were also referred to get an insight on the working of plans designed for road transportation. Access to different articles with respect to road transport on the internet enabled to gather some useful information and facts about the same. This study is totally secondary data based one

Questionnaire is the source of data collection. The questionnaire is prepared with suitable questions and distributed among the customers of Logistics companies. The data is collected from all categories of customers. The sample size is defined as 150. The data collection is done such that the responses are got from almost equal number of both male and female respondents. Also respondents are chosen such that they spend varying amount of years in this company. This helps us to know about what the impact on them in the beginning is and how it varies over a period of time. The questionnaire is prepared and distributed among the people who were employed in Logistics companies. The questionnaire is distributed to customers with varying designations and with varying years of experience.

IV. DATA ANALYSIS & INTERPRETATION
4.1 Percentage Analysis

Table 4.1.1 Demographic profile

		Number of Respondents	Percentage
Age	20-30 Years	16	13.3
	31-40 Years	7	5.8
	41-50 Years	74	61.7
	51-60 Years	13	10.8
	More than 60 Years	10	8.3
Experience	Less than 2 Years	59	49.2
	2-5 Years	34	28.3
	5-10 Years	15	12.5
	10-15 Years	8	6.7
	More than 15 Years	4	3.3
Type	Exporter-Trader	86	71.7
	Exporter-Manufacturer	4	3.3
	Importer-Trader	22	18.3
	Importer –Manufacturer	4	3.3
	Others	4	3.3
Service	International Freight Forwarding	35	29.2
	Cargo Consolidation	19	15.8
	Cargo Warehousing	19	15.8
	Container Handling Agents	25	20.8
	Domestic Freight Forwarding	7	5.8
	Customs Clearance	8	6.7
	Forwarding Agent	4	3.3
	Air & Sea Cargo Handling Service	3	2.5

4.2 Chi-Square Test:

Table 4.2.1 Chi-Square Test

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.931[a]	16	.604
Likelihood Ratio	17.597	16	.348
Linear-by-Linear Association	.061	1	.805
N of Valid Cases	120		
a. 19 cells (76.0%) have expected count less than 5. The minimum expected count is .12.			

Interpretation

From the table,it is shown that the (p=0.604) value which is greater than 0.05.Hence,there is no relationship between age of respondents and their expectation from logistics organization on showing individual attention to customers

4.3 Correlation

Table 4.3.1 Correlations

Correlations		Updated	Warehouse	Documentation	Operating	Individual
Updated	Pearson Correlation	1	.210*	.329**	-.049	.352**
	Sig. (2-tailed)		.021	.000	.592	.000
	N	120	120	120	120	120
Warehouse	Pearson Correlation	.210*	1	.658**	-.091	.532**
	Sig. (2-tailed)	.021		.000	.323	.000
	N	120	120	120	120	120
Documentation	Pearson Correlation	.329**	.658**	1	-.129	.720**
	Sig. (2-tailed)	.000	.000		.159	.000
	N	120	120	120	120	120
Operating	Pearson Correlation	-.049	-.091	-.129	1	-.114
	Sig. (2-tailed)	.592	.323	.159		.215
	N	120	120	120	120	120
Individual	Pearson Correlation	.352**	.532**	.720**	-.114	1
	Sig. (2-tailed)	.000	.000	.000	.215	
	N	120	120	120	120	120
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

Interpretation

From this table,it is shown that there was a negative correlation found between the factor, convenient operating hours and the rest selected factors, which was not statistically significant ($r = -0.114$, n = 120, p = 1). The Pearson correlation coefficient, r, is -0.114 and that is not statistically significant.

4.4 Anova Test

Hypothesis set between Experience of the respondents in logistics industry & their rating on the company's internal operation and efficiency of staff working there

Table 4.4.1 Anova Test

ANOVA					
Efficientstaff					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.268	4	.317	.403	.806
Within Groups	90.523	115	.787		
Total	91.792	119			

Interpretation

From this table,it is shown that the significance level is 0.806 ($p = .806$), which is more than 0.05, therefore, there is no statistically significant relationship between experience of the respondents in logistics industry & their rating on the company's internal operation and efficiency of staff working there.

V. CONCLUSION

The effectiveness and growth of the company finally lies on the market potential of the company. As an overall, the company's marketing strategy is in the booming stage. The company is suggested to follow the suggestion given by the researcher. Thus the company will be able to obtain considerable satisfaction in their marketing perspective.

Throughout the project I have analyzed the logistics industry. The growth of Logistics companies is quite dependent on the growth of infrastructure development. As Chennai is a developing city with huge number of infrastructures are coming up, the future growth of the Logistics companies is good here. Logistics companies have a good market share in Chennai market. It has a huge opportunity to enhance its current market share by tie-up with the local builders/promoters to take them in its confidence for using Logistics companies' services. The company should also modify their promotional activity to acquire the "Share of Mind" of the consumers.

In this context, Logistics companies in Chennai are in the initial stage of marketing functions, thereby creating a need to embrace the impact of its policies on their customers. Best marketing solutions would act as a stepping stone for the company to establish its market and to spread the activity to the entire country. Since this project involves more primary data collection, data relating to marketing practices and literature of authors were collected from the secondary sources like internet, books, etc. The company should adopt the modern concept of marketing strategy which emphasizes the market potential.

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