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A STUDY ON IMPACT OF INFORMATION TECHNOLOGY IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

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ABSTRACT

Information technology is an important factor for any business environment where opting for the right technology is an essential because of the high competition persistence. To maintain accuracy and fast transaction it happens to be the required tool to sustain in the current competitive market. This study attempts to state the various technologies in logistics and supply chain, how it has impacted the industry and future perception toward information technology in logistics and supply chain management. Purposive sampling technique is used for collecting questionnaire from 110 respondents of southern region specifically confined to Tamil Nadu, Kerala and Karnataka.

Keywords: Logistics, Supply chain management, Information technology.

INTRODUCTION

Logistics and supply chain management is an intermediate factor that facilitates in delivering the goods to the end-user. Information technology has captivated the business world which made things to be operated in one defined factor. The Impact is huge especially after the invention and innovation of the information technology in the logistics and supply chain. The technology has caused the business to evolve and grow in a constant pace that took the domestic business to the next level of Multinational business.

STATEMENT OF THE PROBLEM

Even though there is a lot of innovation in technology, logistics and supply chain still finds it difficult in dealing with the technologies that keeps updating with the new one. On the contrary there is no same type of technologies used within the industry. Either somecompany might have an updated software or device which some other companies might nothave that might cause trouble in transacting the cargos. That will lead to time consumption in processing and reduces the customer's satisfaction.

OBJECTIVES OF THE STUDY

- To study about the various technologies used in logistics and supply chainmanagement.
- To get a broad view of the impact of technologies in Logistics and supply chainmanagement.

SCOPE OF THE STUDY

- To study about the technologies in Supply chain management and logistics.
- An analysis on the effectiveness of information technology in SCM and logistics.

RESEARCH METHODOLOGY

Primary data has been collected through survey method using structured questionnaire as the tool. Secondary data have been gathered from various journals, magazines and web sites. Purposive sampling technique has been adopted for the purposeof collecting questionnaire. Data has been collected from 110 respondents. The study has been conducted in Tamil Nadu, Kerala and Karnataka. Simple percentage analysis, and Chi-square test have been applied for the purpose of analysis.

LIMITATIONS OF THE STUDY

- The study is limited to southern region namely Tamil Nadu, Kerala and Karnataka due to time constrain.
- The preference on the Information technology and its performance by companies might keep changing because of the new technologies and updated leading to difficulty in obtaining perfect results for the current trends.

ANALYSIS AND INTERPRETATION PERCENTAGE ANALYSIS

Demographic variables	Particulars	No of Respondents	Percentage
Years of Experience	0 to 5 years	37	33.6
	5 to 10 years	55	50
	10 to 15 years	14	12.7
	More than 15 years	4	3.6
Type of technology that is currently in use	EDI (Electronic Data Interchange)	51	19.17
	Barcode Scanner	29	10.9
	RFID (Radio Frequency Identification)	55	20.68
	ERP (Enterprise Resource Planning)	44	16.54
	SAP (System Application Product)	8	3.01
	DRP (Distribution	45	16.92
	Requirement Planning)		

	Integrated logistic portal/E-market place	34	12.78
	Integrated logistic portal/ E-market place	31	28.2
	RFID application	19	17.3
	LAN (Local Area Network), GPS (Global positioning System)	21	19.1
	Web-based E-mail and mobile application	39	35.5
Satisfaction with current Technology	Yes	71	64.5
	No	1	0.9
	May be	38	34.5
Faced error / system crash	Often	13	11.8
	Sometimes	70	63.6
	Not at all	27	24.5
Gained more accuracy than with manual modes	Strongly agree	54	49.1
	Agree	43	39.1
	Neutral	11	10
	Disagree	2	1.8
	Strongly Disagree	Nil	Nil
Technologies in supply chain process in southern region	different states	66	60
	Profitability	5	4.55
	Accessing data from any region	39	35.45
Problems facing on the inter-connected technologies within region	Lack of knowledge	11	10
	Deficiency in storage	72	65.46
	Network issues	27	24.54

The above table shows that 50% of the respondents has 5 to 10 years of experience, 20.63% of the respondents are using RFID (Radio Frequency Identification), 64.5% of the respondent is satisfied with the use of current technology, 35.5% of the respondents are using web-based E-mail, 63.6% of the

respondents have sometimes faced error or system crash during the usage of their Information Technology, 49.1% of the respondents are strongly agreeing on the fact that use of IT has gained more accuracy than with the manual modes, 60% of the respondents are able to easily access to different states and 65.46% of the respondents are facing deficiency in storage.

CHI – SQUARE

		Observed N	**Expected N**	Chi-Square	Asymp. Sig.
Gained more accuracy than with manual modes	Strongly agree	54	27.5	67.818	.000
	Agree	43	27.5		
	Neutral	11	27.5		
	Disagree	2	27.5		
Reduced cost time improved the efficiency work	Strongly agree	34	22.0	41.818	.000
	Agree	36	22.0		
	Neutral	28	22.0		
	Disagree	10	22.0		
	Strongly disagree	2	22.0		

INTERPRETATION

From the above chi-square test the significant value is 0.00 which is below the table value so null hypothesis is rejected. There is a significant association between Gained moreaccuracy than with manual modes and Reduced cost time improved the efficiency work asa source to know about the reduced cost time and gained more accuracy than with manual modes. Hence, it is inferred that the Gained more accuracy than with manual modes of the respondent is an influencing factor in the reduced cost time improved the efficiency work as a source to know about the accuracy on usage of technology.

SUGGESTIONS

- The technology has greatly impacted on the logistics and supply chain sector and to follow up the work with efficiency it is necessary that every company has to use the unified set of technology that will make the supply chain process much more easier.
- The technologies especially software needs a regular updates from the authorized company or the service provider as the company might face difficulty in processing the data slower. Which in turn leads to reduction in company's reputation that even cause negative impact on profit ability.
- Currently the logistics and supply chain companies are using old software and devices but there are better software and devices which the companies could afford and be used to complete the task efficiently.
- The start up and emerging companies can invest on these technologies as it helps them to improves the satisfaction of the customers by providing quality services and improves the profitability of the company.
- The companies could opt for cloud computing and cloud storage option which is a convenient way

to access and store the data which makes great convenience to the people who are working in the company.

CONCLUSION

Due to high competition the companies are forced to invest on the information technology that has greatly impacted on getting their work better which in turn leads to offering a quality service to their customers. In fact these technologies has moved to the pace of globalization that tends to connect people in various part of the world and made access to multiple products destined in different countries. The effects of technologies has helped in creating good relationship with client to identify their needs and developing sale channels thereby improving the competitive position of the supply chain.

To survive in the current competitive world it is obvious that every company is required to have a highly competent technology that serves them in dealing with their vendors. Hence it is crucial that the company should be cautious in choosing the right technology which benefits them with cost cutting and improve the profitability.

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