

# A STUDY ON IMPACT OF INFORMATION TECHNOLOGY ON CUSTOMER SATISFACTION WITH SPECIAL REFERENCE RIGHT WAY LOGISTICS AT CHENNAI

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**Abstract-** In the past few decades there has been a revolution in computing and communications, and all indications are that technological progress and use of information technology will continue. The revolution in information and communication technology has changed not only our lives but also the way how people do business. Using information technology, companies possess the potential to reach more customers, introduce new products and services quickly, and collaborate with suppliers and business partners from all over the world. Transformation from industrial society to information society and industrial economy to knowledge economy is a result of the impact of ICT and Internet use. Main objective of this paper is to describe information technology; opportunities of Internet usage for businesses to achieve strategic advantages compared to their competition and how they can facilitate the movement of goods and services from producers to customers.

## INTRODUCTION OF THE STUDY

Information technology is simple the processing of data via computer: the use of technologies from computing, electronics, and telecommunications to process and distribute information in digital and other forms.

Information Technology, or IT, is the study, design, creation, utilization, support, and management of computer-based information systems, especially software applications and computer hardware.

IT is not limited solely to computers though. With technologies quickly developing in the fields of cell phones, PDAs and other handheld devices, the field of IT is quickly moving from compartmentalized computer-focused areas to other forms of mobile technology.

The council of logistic management defines logistics as “that part of supply chain process that plans, implements, and controls the efficient, effective, forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer requirement”. In ordinary language the same can be defined as right product, at the right place, in right time, and in right condition. However supply chain consists of all stages that are required to satisfy the customer request. It starts from supplier passes through manufacturer, distribution, and retailer and finally reaches the customer. The supply chain management is the oversight of materials, information and finances as they move in the process from supplier to manufacturer to wholesaler to retailer to customer.

The emerging new technologies are creating strategic opportunities for the organizations to build competitive advantages in various functional areas of management including logistics and supply chain management. However the degree of success depends on the selection of the right technology for the application, availability of proper organizational infrastructure, culture and management policies. In logistics, information, communication and automation technologies has substantially increased speed of identification, data gathering, processing, analysis and transmission, with high level of accuracy and reliability. Technology is a means to enhance business competitiveness and performance. It plays a major role in success of supply chain by enhancing the overall effectiveness and efficiency of the logistics system. In logistics many new technologies are used in developed country while in India adoption process is very slow. However due to liberalization of the Indian economy the competitive pressure is building up and the only option to face the competition in to go in for technology enabled operations.

The latest technologies being used in logistics and supply chain management are segregated into

- Automatic Identification Technology
- Communication Technology
- Information Technology

## STATEMENT OF THE PROBLEM

Logistics industry is the executives includes a few exercises like material acquisition, creation planning , and actual circulation system(Logistics),all of which are currently upheld by data frameworks. Business currently needs to adjust their inventory network and plan of action to the changing climate and increment participation and trade of data.

These days a firm cannot get by without the utilization of data innovation the more update they will be they will catch the business. For the situation of production network and logistics, the entire framework will broke without IT since it has an unmistakable part in it, it makes the production network exercises more simpler and more effective.

### OBJECTIVES OF THE STUDY

- To determine the various technology used in logistics.
- To discuss the impact of technology on logistics.
- To determine how levels of IT usage affect performance of logistic firms in Chennai.
- To establish the influence of cargo tracking and security system on the performance of logistic firms in Chennai.
- To establish how use of IT on customer service delivery system affect performance of logistic firms in Chennai.
- To determine how information integration influence the performance of logistics firms in Chennai.

### SCOPE OF THE STUDY

For the purpose of this survey, we define a supply chain relationship as the business to-business relationship between two firms when one firm purchases products/services from the other firm in order to create offerings for a downstream market. In other words, this survey is interested in the supply chains that exchange production-related products/services. Business exchange relationships involving nonproduction products/services (e.g., office supplies for internal consumption) are excluded from this survey.

### LIMITATIONS OF THE STUDY

- Respondents are not willing to fill the questionnaire.
- Very often the respondent do not express their true feelings, in such case their habit, preference, practice, cannot be assessed correctly.
- Some of the respondents refuse to give the information best known to them.
- Time was a limiting factor for the study

### REVIEW OF LITERATURE

**Shreekumar, M. G (2017)**<sup>1</sup> reviews strategical impacts of information technologies on the enterprise in his research. The requirement of the enterprise to designate its financial resources by deciding which function enterprise will invest in and what kind of investment will be made are analysed. Impacts of information technologies on enterprises under the titles of constituting entrance barriers, increasing change costs for customers, changing competition bases, differentiating power balance between suppliers, and allowing for the enterprise to produce or develop new products.

**Panigrahi, Pijushkanti (2018)**<sup>2</sup> reviews the relationship of information-orientation and customer oriented approaches with indicators of enterprise performance in their researches. Especially increasing importance of both approaches in the logistics industry. The impact of information technology on the firms' cost structure can be best illustrated on the electronic commerce example. The key areas of cost reduction when carrying out a sale via electronic commerce rather than in a traditional store involve physical establishment, order placement and execution, customer support, staffing, inventory carrying, and distribution.

**Meera, Jyoti (2019)**<sup>3</sup> described the impact of information technology on higher education. All Efforts are being made to modernise the libraries and rendering library services with modern Technologies. I.T. has also advanced teaching techniques replacing traditional systems. Internet has emerged as an important tool to social and educational institutions to enhance their quality and facilitating quick access to information on the web for the betterment of academic society. Internet has also helped in increasing the research productivity.

**Haneefa, Mohamed K (2020)**<sup>4</sup> The author described the rate of enormous growth in publication of journals which are accessed electronically by libraries. He further stated that no study specifically discussed the usage of e-journals and the actual number of journals accessed by a Library out the total number of journals subscribed by the library whether print or e-print. A survey was made by serials solutions Inc., about tracking of journals in comparison with a number of print journals or microfilm titles. The author made a first attempt and a comprehensive analysis as how many journals are accessed electronically rather than print.

**Wilson et al (2021)**<sup>5</sup> The performance in terms of costs, productivity, and customer service in the logistics firms are affected potentially by unceasing technological revolutions happening around the world. However, these firms still struggled to achieve active clearance, secure goods in transit precisely, and resolve transactions thus resulting in loss of trust by their clients despite this 'information technology' revolution (Interagency Procurement Working Group

**Tippling and Kauschke (2021)**<sup>6</sup> As the volume of transactions increased each day, it adds up to challenges faced by these logistics firms in growing and meeting up with their responsibilities regardless the profit they are making. While these firms continue to suffer insecurity and inefficiencies, it is a faultless suggestion that the level of technology provided is less of a concern but rather 'how well' the potential users are served when evaluating the introduction of IT based on the objectives it owes. Thus, this study wished to assess the impact of IT on the performance of the logistics industry

<sup>1</sup> **Shreekumar, M. G (2017)** "The Impact of Automatic Identification on Supply Chain Operations," The International Journal of Logistics Management, vol. 14, no. 1, pp. 1-17, 2003.

<sup>2</sup> **Panigrahi, Pijushkanti (2018)** "Information accessibility customer responsiveness and enhanced performance," International Journal of Physical Distribution & Logistics Management, vol. 25, no. 1, pp. 4-17, 1995.

<sup>3</sup> **Meera, Jyoti (2019)** "Empirical analysis of supplier selection and involvement, customer satisfaction and firm performance," Supply Chain Management: An International Journal, vol. 6, no. 4, pp. 174-188, 2001.

<sup>4</sup> **Haneefa, Mohamed K (2020)** "Does supply chain management strategy mediate the association between market orientation and organizational performance?" Supply Chain Management: An International Journal, vol. 11, no. 5, pp. 407-414, 2006

<sup>5</sup> **Wilson et al (2021)** Logistics And Supply Chain Management, Pitman Publishing Co London, 2021

<sup>6</sup> **Tippling and Kauschke (2021)** "The Management of Business Logistics", Thomson Asia 2021

**Rushton et al (2022)**<sup>7</sup> IT integration in logistics, since 1990s has extensively engaged a number of technologies such as enterprise resource planning, barcoding, electronic point of sale, radio frequency identification, electronic data interchange, and office automation system due to their usefulness in the performance of many firms. By maintaining one 'store' instead of several, duplicate inventory costs are eliminated. In addition, e-commerce is very effective at reducing the costs of attracting new customers, because advertising is typically cheaper than for other media and more targeted. Moreover, the electronic interface allows e-commerce merchants to check that an order is internally consistent and that the order, receipt, and invoice match.

**Wilson et al (2022)**<sup>8</sup> Regardless of the numerous impacts that the integration of IT has brought, consumers have not realised and experienced all of them which resulted in increased detriment to the industry's potential investors and shareholders. That is because today, the logistics firms have not emphasised on critical areas such as ensuring the standardisation of transaction tools but instead are interested in moving and procuring goods from one point to the other while maximising revenue. Thus, the challenge to many firms is to determinedly link information technology with the corporate mission

## RESEARCH METHODOLOGY

Research methodology is the process of systematic investigation of any management problem is deals with research design, data collection method, sampling plan, and statistical data.

### RESEARCH DESIGN

A research design is purely and simply the frame work of plan for a study that grids the collection and analysis of data. The research design would be descriptive and analytical in nature.

### SAMPLE SIZE AND SAMPLING METHOD

#### Sampling

Sampling may be defined as "The selection of some part of an aggregate the basis of which judgement or interpretation about the aggregate or totalling is made."

#### Sampling Techniques

The sampling technique used in this study is "Convenience sampling," When the population elements for inclusion in the sample based on the ease of access, it can be called as convenience,

#### Sample Size

The sample size is certified to its nature of data collection. Data collection is based on the primary data is 150 respondents are taken as the sample for this study.

### DATA COLLECTION METHOD

For this study, primary data and secondary data

#### (a) Primary Data

Primary data was collected from this study. The primary data was collected by questionnaires from the consumer. In the questionnaires open ended questions, Close ended questions, multiple questions are used.

#### (b) Secondary Data

The secondary data were collection from different source, In the current content the secondary data was collected through Published Books, Journals, Magazines, and Related Websites.

### SATISTICAL TOOLS

1. Correlation
2. ANOVA

#### 1. CORRELATION

There are several different correlation techniques. The survey systems optional statistics module includes the most common type, called the person or product moment correlation. The module also includes a variation on this type called partial correlation. The latter is useful when you want to look at the relationship between two variable while removing the effect of none or two other variables

$$r = \frac{\sum XY}{\sqrt{(\sum X^2)(\sum Y^2)}}$$

#### 2. ANOVA

Examination of change, or ANOVA, is a solid measurable method that is utilized to show contrast between at least two methods or parts through importance tests. It likewise shows us an approach to make numerous examinations of a few populace implies. The Anova test is performed by looking at two sorts of variety, the variety between the example implies, just as the variety inside every one of the examples. Beneath referenced recipe addresses one way Anova test measurements:

<sup>7</sup> **Rushton et al (2022)** Supply Chain Management For Global Competitiveness, Macmillan- 2022

<sup>8</sup> **Wilson et al (2022)** Gender and Information Technology: Implications of Definitions'. ACM SIGCSE Bulletin 34 (4), 14

$$F = \frac{MST}{MSE}$$

F = Anova Coefficient

MST = Mean sum of squares due to treatment

MSE = Mean sum of squares due to error

**CORRELATION**

The table shows that the relationship between monthly income and benefits processes and the adoption of IT promotes effective supervision.

**Correlations**

		Monthly Income	Benefits processes and the adoption of IT promotes effective supervision
Monthly Income	Pearson Correlation	1	.896**
	Sig. (2-tailed)		.000
	N	150	150
Benefits processes and the adoption of IT promotes effective supervision	Pearson Correlation	.896**	1
	Sig. (2-tailed)	.000	
	N	150	150

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**RESULT**

This is a positive correlation. There are relationships between Monthly income of the employees and adaptation of IT promotes effective supervision.

**ANOVA**

**NULL HYPOTHESIS**

**H<sub>0</sub>:** There is no significant relationship between designation of the respondents and the advance planning and scheduling.

**ALTERNATIVE HYPOTHESIS**

**H<sub>1</sub>:** There is a significant relationship between designation of the respondents and the advance planning and scheduling.

**ANOVA**

Experience	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	137.002	4	34.251	525.101	.000
Within Groups	9.458	145	.065		
Total	146.460	149			

**RESULT**

From the above analysis, we find that calculated value of the F-value is a positive 525.101 value, so H<sub>1</sub> accept. Since the P value 0.000 is less than < 0.05 regarding there is a significant relationship between experience of the respondents and the IT enables proper identification and communication with customers. The results are **significant** at 4 % level.

**SUGGESTIONS**

The data should be collected in consistent form using standard definitions. The should consider including this data in an integrated database with unit performance data, thereby providing a basis for data mining to search for hidden relationships between best practices and small unit performance.

The data should cover, for example, members of tank crews, battle staffs at the battalion or other levels, and maintenance teams for sophisticated equipment.

- Update of technology with respect to ERP handling should be strictly practiced.
- The Right way logistics ERP handling procedure should be standardized and employees should be trained accordingly to avoid delays.
- It would be desirable if the ERP complex is provided with increased number of X-ray machines and the staff for screening. Advanced X-Ray machines sufficient of screen big lots should also be installed this can reduce the waiting time at the queue significantly. This will reduce the high dwell time of imports ERP.
- It would be desirable if firm complex implements e-filing of the shipping bill. This leads to reduce paper work and the time involved in transactions can be reduced.

### CONCLUSION

“Technology” is vehicle to enhance supply chain competitiveness and performance by enhancing the overall effectiveness and efficiency of logistics system. Hence choosing the right technology for various logistics activities or sub-processes is very crucial to any business to gain competitive advantage in today’s competitive market.

The study found that the level of information usage among logistics firms in Chennai contributed to the performance. Use of information technology on security and logistics tracking affected the performance of the firms. Customer service delivery systems improved the way customers are service satisfying them thus improving the performance of the logistics firms. Lastly information integration systems contributed to the performance of logistics firms in Chennai.

### BIBLIOGRAPHY

- [1]. Chirstopher Martin, Logistics And Supply Chain Management, Pitman Publishing Co London, 2001.
- [2]. Coye J.J, Bardi E.J,Langgley C.J,“The Management of Business Logistics”, Thomson Asia 2003.
- [3]. David Simchi Levi, Philip Kamisky And Edith Simchi Levi, Designing And Managing The Supply Chain, Irwin Mc Graw Hill, New York, 2000.
- [4]. Mohanty R.P And Deshmukh S.G, Advanced Operation Management, Pearson Education 2003.
- [5]. Michel Quayle & Bryan Jones, Logistics- An Integrated Approach, Tudor Disiness Publishing, UK, 1999.

### WEBSITES

[www.rwllogistics.com](http://www.rwllogistics.com)

[www.wikipedia.org](http://www.wikipedia.org)