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## Customer's satisfaction on logistics service quality provided by innovative e-commerce sites

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**Abstract:** The main aim of the study is to find out the customer satisfaction on logistics quality service of ecommerce. To provide valuable suggestions to the logistics and the e-commerce business to enhance the customer satisfaction, With the help of the real time data collected from students and employees by issuing questionnaires with the help of google forms. By getting the real time data we can easily predict the needs and wants of the customers. analyzing the data by working on SPSS software with various statistical tools. The results derived from this report will be useful from many e-commerce and logistics businesses. This study has been conducting By finding out the gap between customer satisfaction and logistics on e-commerce.

**Keywords:** E- commerce, Logistics, Reverse logistics, Return policies, innovator, entrepreneur

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### INTRODUCTION

Customer satisfaction on logistics quality service provided by E – commerce sites. E- Commerce industry has been developing in recent years to satisfy the customers. The main objective of the E- commerce is to provide quality service to customers in mobility and easy accessible mode. Today everything is based on internet service only because of the massive development in internet service sectors it directly develops the E- commerce business to reach the customers at the doorstep. In this research both the nominal scale and ordinal scale measures were used. The ordinal scale was used to identify the demographic data i.e. name, age, place of living etc. and the ordinal scale was used to identify the perspective of the public on the questions mentioned by researchers. Both the ordinal and nominal scale give a range of factors establishing the customer's satisfaction on quality service provided by e-commerce websites, apps etc. after collection of data it was edited for convenience of the reader. Later the collected data was inserted in this article in the mode of table to show the relations using the graphs, pie diagrams etc. by using the SPSS software. Our research idea is based on the rich knowledge acquired by our peer teams across the university.(A.C.Gomathi, S.R.Xavier Rajarathinam, A.Mohammed Sadiqc, Rajeshkumar, 2020; Danda et al., 2009; Danda and Ravi, 2011; Dua et al., 2019; Ezhilarasan et al., 2019; Krishnan and Chary, 2015; Manivannan, I., Ranganathan, S., Gopalakannan, S. et al., 2018; Narayanan et al., 2012, 2009; Neelakantan et al., 2013, 2011; Neelakantan and Sharma, 2015; Panchal et al., 2019; Prasanna et al., 2011; Priya S et al., 2009; Rajeshkumar et al., 2019; Ramadurai et al., 2019; Ramakrishnan et al., 2019; Ramesh et al., 2016; Venugopalan et al., 2014)

### REVIEW OF LITERATURE

(Restuputri et al., 2020) this article prepared by those authors helps to build a service model for logistics for documentation and packaging. The method which was used by them was kinesis engineering to design the 24 questionnaire instruments, and 41 services attribute questionnaire instruments. And also they used PLS-SEM

(Gajewska et al., 2019)try to find out the level of consumer/customer satisfaction over the E-commerce on logistics service. And also they made many criteria to find out the quality of logistic service provided by E-commerce. The basic purpose of this article is to find out the level of satisfaction of consumers using various data analytics tools. All the authors used a servqual method to find out the level of satisfaction of consumers, and also they used t-test to compare the two groups, quality of E-commerce before purchase and the quality of E-commerce after purchase, to compare these two groups they used ttest. (Bhattacharya and Raju, 2019) about the various factors affecting the customer's satisfaction on E-commerce especially in quality service of logistics. This result of the articles helps companies' to ratify the errors on customer's satisfaction on E-commerce.

BHATTACHARYA.S, RAJU.V (2019) uses the method called AHP, and Condorcet voting theory, to find out the various factors affecting the customer's satisfaction on e-commerce purchases on both the logistics and return logistics.AHP methods as use to find solve the various problems on MCDM in various sectors of human life. But the main dis-advantage of the AHP methods is it lies in the use of subjective assessment based on important scale

points which leads to judgmental errors in results. (rangist, 2019) this article explains about the B2Bb2b and b2c in logistics services combining with the particle situation happened in china and B2c in logistics quality service combining with the particle situation which has happened in china E-commerce companies.

(Rajendran et al., 2018) This article clearly designed to prove that there is a reliable relationship between the customer's satisfaction with E-commerce and logistics services. In order to get reliable data the author gets responses from 485 individuals with proper response. All the responses resulted which proves that there is a strong relationship between customer's satisfaction on E-commerce and logistics services provided by the same E-commerce.

(Lekovic and Milicevic, 2013) helps to find out the importance of logistics in E-commerce and also the authors help E-commerce business to develop the service quality when E-commerce businesses have their own logistics on their article named The importance and characteristics of logistics in E-commerce.

(Zhang et al., 2001) Tries to convey the information about the increasing globalization and the resulting need for greater, faster, and more flexible communication. This helps to build the framework for the company to run their business at the low cost especially in E-logistics on E-commerce business when it comes to customer satisfaction.

(Rao et al., 2011) , in this article the author clearly mentioned that the internet is a growing one. Nowadays there are many only retailers are trading with the help of internet, there are n number of competitions among online sellers, what are all the new strategies that they are following to satisfy their needs and wants. This Article enquire that customer satisfaction on E-commerce with the help of survey from 260 real time online customers.

(Kings, 2007) has mentioned his invention which helps to improve the quality service of the logistics. He invented a shipping device which loads along with a ship docks to ship along with shipping routes from the source location to destination location. This device comes along with the GPS device, which is used to track the products loaded in ship. This GPS device allows users to track their product in real time. This GPS indoor device connected to control logic, a power supply and a I/O interface. The data derived from the GPS device i.e. time, location, route etc. are stored and transformed to a E-storage.

(Zhang et al., 2005) all the three author's explained that all the logistics company should not only focus only on the future plans but also turn their eye towards the changing customer needs, customers are not a constant one they are flexible in nature, since the logistics service is purely for customer the logistics company also must be a flexible one, their plans, their objectives must be flexible in nature. (Kearney, 1994; Zhang et al., 2005) says that how leading logistics companies focus on their excellence even in the pandemic situation; he clearly explained how logistics companies focus on their service which should be reliable in nature. He explains how logistics companies facing their problems, how they get review from that situation. He says sometimes domestic market boundaries are not a safe one for all time. This article is limited to the European countries. The main concept of the study is customer satisfaction through logistics excellence. To get customers to feel satisfied the logistics performance must be in excellent work condition. So he explained all pros and cons that logistics facing, all difficulties, and problems. But also the main thing we have to know is the general policies, procedures, concepts; objectives are same all over the world, so even this article may be a limited to European but it can be applicable all over the world because it talks about the general problems and specific problems faced by every logistics company in the world.

## RESEARCH METHODOLOGY

This chapter totally focuses on the research methodology which was widely used in this chapter. This chapter provides in depth analysis about the research approach adopted in this study. Research design, population which was targeted, research instruments, data collections and analysis methods where detail described in the upcoming sections. The sample of 137 has been collected using primary data. The data is collected with the help of Google forms by circulating to the individuals. These individuals include public, friends, relations, employees etc. The questionnaires were issued to a large number of populations, where the population is unknown in this survey. Since the survey questionnaire issued to the different sets of peoples i.e. public, employees, students, friends etc. Since the questionnaires are issued with the help of Google forms to the individuals. These individuals include all types of peoples i.e. employees, friends, public, business men, entrepreneur, relation etc. it also includes earning people, house wife, job seekers. To analyze those collected samples to get a perfect conclusion we use SPSS software.

## RESULTS AND DISCUSSION

Mean analysis of the factors which directly related to the customer satisfaction

**Table 1: Mean analysis**

Customer preference	Mean	Rank
TRACKING FACILITY	3.27	1
I am satisfied with logistics services providing by commerce	2.9416	2
Reliable service	2.82	3

Does E-commerce website providing convenient delivery time	2.75	4
Delivery persons are friendly in nature	2.75	5
Do you think logistics and ecommerce are charging extra amount for packaging your product	2.74	6
When you buy products from E-commerce websites do you think SHIPPING PROCESS is an easy one?	2.68	7
Compensation	2.51	8
Drone delivery	1.47	9
E-commerce and logistics department providing guarantee for safe packing	1.255	10
Will you prefer new innovation in delivery	1.20	11
Does your decision factors getting affect by shipping charges	1.18	12
Do you prefer innovation in logistics and innovation	1.14	13
Do you prefer innovation in packaging of goods	1.10	14

The mean analysis of the rank in the above table shows the lowest value of 1.10 And the highest value of 3.27 which is arranged in descending order and the ranks for the respective are shown.

### Independent T-test analysis

Analyzing the difference between Customer satisfaction on logistics services of E-commerce with gender basis

**Table 2: Test on customer satisfaction and logistics services**

Content	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	0.127	1	0.127	0.241	0.625
Within Groups	71.406	135	0.529	-	-
Total	71.533	136		-	-

The above table is resulted by comparing the gender and customer satisfaction. The resulting variables say that a significant value is greater than 0.05 that is the resulting value is 0.625. As per the rule of ANOVA test we have to reject the alternative hypothesis and accept the NULL hypothesis. By rejecting the alternative hypothesis we have to take the NULL hypothesis resulting : there is no significant difference between the customer satisfaction on logistics services of E-commerce on gender basis.

### Analyzing the relationship between Customer satisfaction and innovation in logistics services

**Table 3: customer satisfaction and innovation in logistics services**

CONTENT	VARIANCE	Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	DF	sig(2 tail)
Iam satisfied with logistics services providing by Ecommerce	Equal variances assumed	0.206	0.650	3.127	135	0.002
	Equal variances not assumed	-	-	3.504	26.614	0.002

The above table shows the independent T-test analysis of customer satisfaction VS innovation on logistics services. With the help of the results we can easily predict that both the variables are lesser than 0.5 i.e. SIG(2 tailed)is 0.002, so we have to reject the null hypothesis and to choose the alternative hypothesis . This says the people are expecting new innovation in logistics which helps to improve the customer satisfaction so there is a significant difference between the need of innovation in logistics services in respect with customers.

### Independent T-test to analysis the difference between new innovation on delivery on customer satisfaction:

**Table 4: Innovation on delivery and customer satisfaction**

Customer satisfaction vs innovation on delivery		Levene's Test for equality of Variances		t-test for Equality of Means		
		F	Sig.	t	Df	Sig. (2tailed)
I am satisfied with logistics services providing by Ecommerce	Equal variances assumed	1.627	0.204	0.177	133	0.860
	Equal variances not assumed			0.200	47.514	0.842

with the help of the independent T-test analysis, on customer satisfaction VS innovation on delivery, with the help of the results we get to know that both the variables are greater than 0.05 i.e. 0.860 and 0.842. reject the alternative hypothesis and select the NULL hypothesis. There is no any significant difference between the customer

satisfaction and need of innovation on delivery. That is there is no need for new innovation in the delivery system to increase the customer satisfaction. The innovation in delivery will not attract customer satisfaction. Independent sample T-test to analyze the relation between innovation on packaging service on customer satisfaction.

**Table 5: test on customer satisfaction and innovation on packaging**

CONTENT	VARIANCE	Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2tailed)
I am satisfied with logistics services providing by Ecommerce	Equal variances assumed	0.997	0.320	0.071	135	0.944
	Equal variances not assumed	-	-	0.082	17.560	0.936

With help of the independent t test on customer satisfaction VS innovation on packaging services, the result shows that both variables are greater than 0.05 that is 0.0944 and 0.936. since the outcome is greater than 0.05 we have to reject the alternative hypothesis and to choose the **Null hypothesis**. There is no any significant difference between customer satisfaction and innovation in packaging service.

**Independent T-test analysis on need of drone delivery VS customer satisfaction:**

**Table 6: test on droner delivery and customer satisfaction**

CONTENT	VARIANCE	Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	DF	Sig. (2tailed)
I am satisfied with logistics services providing by Ecommerce	Equal variances assumed	0.002	0.962	0.755	135	0.452
	Equal variances not assumed	-	-	0.756	134.515	0.451

With the help of the independent t-test analysis we can get to know that there is no any significant difference between the need of drone delivery VS customer satisfaction. The above tables results show that both the variables are greater than 0.05 that is 0.452 and 0.451 so as per the rule we have to reject the alternative hypothesis and to accept the NULL hypothesis. There is no any significant difference between the need of drone delivery in E-commerce on customer satisfaction.

**Correlation analysis:**

Finding that there is any relationship between the convenient delivery time with customer satisfaction.

**Table 7: test on convenient delivery time and customer satisfaction**

CONTENT	CORRELATION	I am satisfied with logis services providing commerce	does E-commerce website providing continent delivery time
I am satisfied with logistics services providing bye-	Pearson Correlation	1	.532**
Sig	Sig. (2tailed)		0
Commerce	N	137	137
does Ecommerce website providing convenient delivery time	Pearson Correlation	.532**	1
	Sig. (2tailed)	0	
	N	137	137

The above table shows that there is a significant relationship between the customer satisfaction and the convenient delivery time demanded by the custome The significant level is lesser than 0.05 that is 0.000 we have to reject the null hypothesis and to accept the alternative hypothesis. By accepting the alternative hypothesis the result

will be there is a significant relationship between the customer satisfaction and the convenient delivery time demanded by the customer.

**Correlation analysis for finding is there is any relationship between the tracking facilities provided by the logistics and customer satisfaction.**

**Table 8: test on tracking facility provided by logistics and satisfaction customer**

Content	variance	I am satisfied with logistics services providing by Ecommerce	Tracking facility
I am satisfied with logistics services providing by Ecommerce	PearsonCorrelati on	1	.465**
	Sig. (2tailed)		0.000
	N	137	137
Tracking facility	Pearson Correlation	.465**	1
	Sig. (2tailed)	0.000	
	N	137	137

The above table clearly says that there is a positive correlation between the customer satisfaction and the availability of tracking facilities. . And the significant value is 0.000 which is lesser than 0.05 so we have to accept the alternative hypothesis. By accepting the alternative hypothesis the result will be there is a relationship between availability of tracking facilities and the customer satisfaction.

## CONCLUSION

The main aim of the research is to find that the customers are satisfied or not with the help of the research I have found that customers are well satisfied with logistics services provided by Ecommerce. Since the customers have more expectations but also expectations are alone which don't affect the customer satisfaction. As per the results from this research purely says that customers are well satisfied with the services provided by e-commerce. But still customer's expectations need to be fulfilled to get the 100% satisfaction from customers.

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