

# A STUDY ON ATTRACTIVE FACTORS ON ONLINE SHOPPING CUSTOMERS WITH SPECIAL REFERENCE TO THANJAVUR DISTRICT

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**Abstract:** The online shopping customers take an important place in the study of consumer surveys. Research takes gender, education, occupation, monthly income and place of residence of the customers. The analysis shows that there were significant differences in consumer attitude due to these demographic variables, mainly age, gender, education, income etc., The study concludes that the higher the income of consumers, the more favorable is the attract factors on customers towards online shopping. Findings of current research, this study concludes that, most of the consumers were positive towards online shopping. This research shows that the perception towards online shopping is getting better among the online shopping customers in Tamilnadu.

**Key words:** Online shopping, Consumer Attitude, Attractive customers.

## 1.1 INTRODUCTION

In the past decade, there has been a dramatic change in the way that consumers have altered their traditional way of shopping. Although the consumers continue to purchase from a physical store, they feel very convenient to shop online since it frees them from personally visiting the store. Such shopping, popularly known as online shopping or Internet shopping has its own advantages and it reduces the effort of traveling to a physical store. Decisions can be made from home at ease looking at various choices and prices can be easily compared with the competitor's products to arrive at a decision. This leads to emergence of online shopping.

## 1.2 STATEMENT OF THE PROBLEM

In the volatile world of e-commerce, it is particularly important to understand the consumer and the values that lead to their satisfaction. Successful e-commerce sites need to exhibit more qualities than just good site design and security. While browsing a site, online consumers encounter a multitude of factors simultaneously that influences their purchasing decision. Most Internet users worry about information privacy, including issues related to the acquisition and dissemination of consumer data (Rohm and Milne, 1998). The US FTC (Federal Trade Commission) echoed those findings, noting that a vast majority of web users are concerned about the privacy of their personal information (Sheehan and Hoy, 2000). Online Shopping in India is in its nascent stages and is expected to rise above \$700 million by the end of March 2012, promising a bright future. However, many people still locate information on the internet and purchase products offline at traditional stores, conversion rate being very low.

## 1.3 RESEARCH QUESTIONS

- The demographic factors make attraction, discouraging and expectation to the customers towards the online shopping?
- Does awareness of customers make effect on satisfaction to them?
- How does the attitude of customers make influence on satisfaction of the customers?

## 1.4 OBJECTIVES OF THE STUDY

- To study online shopping practices in relation to buying goods.
- To examine attractive, discouraging and expectation factors of the consumers during the online shopping.
- To analyze the overall satisfaction of the customers towards online shopping.

## 1.5 REVIEW OF LITERATURE

Internet shopping occurs over web site as different procedures (Dixon & Marston, 2002). Usually whole processes are done over web sites, customer pay price over web site and companies send the product to customer address. Whole process is easy for customer and is done without going to outside from home by customer.

*Shergill and Chen (2005)* in their empirical study in New Zealand, Web site design of a web page is one of the most important factors that influence online shopping. Shergill and Chen, (2005) identified web site design characteristics as the dominant factor which influences consumer perceptions of online purchasing.

The online environment could result in a greater confirmatory bias that is, induce a stronger positive effect of loyalty on satisfaction online than offline because of the sense of control that customers perceive when making choices online. Because of increased information, availability and convenience of shopping, loyal online customers recognize that they have chosen their favored service provider even when confronted with a large number of other options that were just a click away. (*Klayman 1995; Boulding et al. 1999*)

One reason for this difference is that when customers are satisfied with a service provider online, they could more readily bookmark the website, make the choice 24x7 and even store or place a future order with the service provider. Thus, they have to spend less effort for a level of accuracy of choice that is roughly equivalent to their previous choices. Such an option is attractive to customers. (*Johnson and Payne 1995*)

The significance of Internet Consumer behavior is attracting increased attention from Marketing and Consumer Researchers. The domain of activities are identified which could be called "Consumer Internet Behavior" that included Information gathering, consumption of information through exposure to advertising, shopping, which includes browsing, comparing products and deliberate information search, and online buying of goods, services and information. (*Donthu and Garcia, 1999; Phau and Poon, 2000*)

*Lee and Turban (2001)* propose that consumer trust in Internet shopping is driven by trustworthiness of Internet merchant, trustworthiness of Internet shopping medium and contextual factors and that individual trust propensity moderated each of the relationships between the antecedents of trust and trust. Trustworthiness is driven by seals of approval (logos of security firms), branding, fulfillment, navigation, presentation and technology.

The Internet can provide timely information to customers because of its ability for instant communication, and its availability 24 hours a day, 7 days a week (*Lane, 1996*).

On-line marketing offers more choices and flexibility and, at the same time, eliminates huge inventories, storage costs, utilities, space rental, etc. (*Lamoureux, 1997*)

People tend to associate Internet marketing with direct marketing because companies participating in online marketing usually shortened the supply chain (Edwards, et al., 1998) and reduced commission and operating costs. (*Avery, 1997*)

*Karayanni (2003)* observed that online shoppers tend to value avoidance of queues, availability of shopping on a 24-hour basis and time efficiency. A study carried out by *Monuwe et. al (2004)* collectively provides all the related literature review regarding the factors that drive consumers to shop online.

*Product and pricing information (Ward, 2001)* are easily searched from the online shop since they will always have a search function that the shoppers can call up in a very short time. The sellers also often have lower cost through the Internet channel. Therefore, most shoppers will get the benefits of a better price when compared with the offline store channel as well as reducing their delivers cost since the sellers may include this service in the price in order to attract shoppers.

## 1.6 RESEARCH METHODOLOGY

Methodology of any type of research study takes a vital role in bringing a logical and scientific approach. It requires a strong base to the research and it leads to a reliable as well as valid interpretations. . This is an empirical survey, based on primary data. For this study, Tamil Nadu is selected as the geographical area. The purpose of this chapter is to explain the methods used in this study. On this issue of sense-making, it is understood that the qualitative research has an interpretive characteristics which aims at discovering the meanings of the events for the individuals who experience them, and the interpretations of those meanings by the researcher will be the outcomes or product of the research. An internally coherent research design demands that methodological choices that are made in accordance with the understanding of the research topic.

### 1.6.1 Research Design

The purpose of this research design is to give an accurate picture of some aspect of the organization, employee and work environment, in other words, descriptive designs describe phenomena establishing the association between factors. Though it is frequently used for conclusive, preliminary and exploratory studies, the hypothesis framed will be tentative and speculative.

### 1.6.2 Method of data collection

Both types of data i.e., secondary and primary data have been used in the present study. The secondary data was collected at first form the text books, web sites, journals and other secondary sources. The primary data was collected then from the sample customers. The primary data collected from the 167 customers was put into reliability test accordingly.

### 1.6.3 Area of the study

The customers who buy the goods and services through online shopping are treated as the population of the study. Tamil Nadu is the geographical area of the present study. As the population is infinite one, the method of selecting of the sample customers is a difficult process.

### 1.6.4 Population and sampling procedure

The present research takes 167 sample customers from the different walks of life of the online shopping customers. Here, the buyers who have bought any product of service at least few times during the last one calendar year period (2016-2017) are considered as the appropriate sample customers for the study. So, those customers have been selected at random from every district of the State and from different walks of life. Representation has been given to every type of stratum viz., rural- urban, income category, occupation, educational qualification etc.

### 1.6.5 Measurement Scale

Awareness of the customers towards the online shopping is viewed at two extremes such as existence of awareness and absence of awareness. Attractive factors are measured with the help of 7 point scale such as strongly disagree, disagree, slightly disagree, neither agree nor disagree, slightly agree, agree and strongly agree.

### 1.6.6 Analytical Tools Used

Analysis of data is a critical part in social science researches. Successful analysis of data mainly depends on the reliability of data as well as usage of appropriate statistical tools. These two aspects of statistical analysis result in logical interpretation and conclusion. The present research has paid its attention on these two aspects carefully. Choice of suitable analytical tools relies on the nature and objectives of the study. The present study takes the following statistical tools to process the data.

#### Chi Square Test

Chi square test is an important test amongst the several tests of significance developed by statisticians. It is a statistical measure used in the context of sampling analysis for comparing a variance to a theoretical variance. As a non-parametric test, it can be used to determine if categorical data shows dependence or the two classifications and the actual data when categories are used. (Kothari, 1998). The chi square test is applied to test the hypotheses.

#### Neural Network (NN) Method

Neural Network method is a modeling technique used to model problems having parameters with complicated mapping relationships. NN is a computing system made up of a number of simple and highly interconnected processing elements, which processes information through its dynamic state response to external inputs.

### 1.7 ANALYSIS AND INTERPRETATION OF DATA

The attractive factors include 12 factors viz., Discount, Convenience, Information service, Home Delivery, Delivery speed, Making order at any time.(24 hours), Time saving, Less efforts, No strain / stress, Visuals and information, Web page design and Easy access into the web site.

### HYPOTHESIS

**Null Hypothesis (H<sub>0</sub>):** Customers are not attracted by online shopping.

**Alternative Hypothesis (H<sub>1</sub>):** Customers are attracted by online shopping.

**Table – 1**  
**Chi-Square test for Attractive Factors**

	Discount	Convenience	Information service	Home Delivery	Delivery speed	Making Order at any time. (24 hours)	Time saving	Less efforts	No strain / stress	Visuals and information	Web page design	Easy access into the web site
Chi-Square	271.208 <sup>a</sup>	735.216 <sup>b</sup>	471.584 <sup>a</sup>	473.156 <sup>a</sup>	726.956 <sup>b</sup>	700.384 <sup>b</sup>	740.690 <sup>b</sup>	737.988 <sup>b</sup>	750.350 <sup>b</sup>	735.888 <sup>b</sup>	598.772 <sup>a</sup>	707.804 <sup>b</sup>
Degrees of freedom	5	6	5	5	6	6	6	6	6	6	5	6
Asymp. Sig.	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**
a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 166.7.												
b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 142.9.												

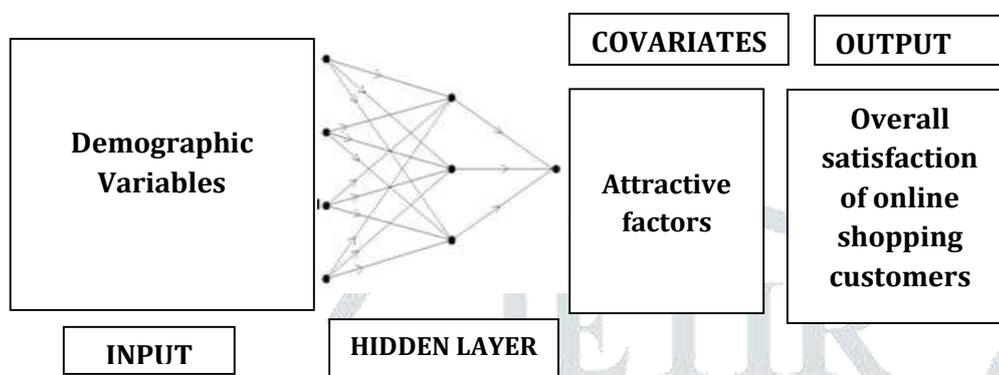
Source: Output generated from SPSS 19.

From the above table, it is found out that all the variables under attractive factors had significance value less than 0.05 at 5% level of significance, thus the null hypothesis is rejected. Thus it is concluded that the customers are attracted by Discount, Convenience, Information service, Home Delivery, Delivery speed, making order at any time (24 hours), Time saving, Less efforts, No strain / stress, Visuals and information, Web page design and Easy access into the web site.

**Analysis Of Overall Satisfaction Of Online Shopping Customers With Attractive Factors By Using The Neural Network (NN) Method**

Neural Network method is a modeling technique used to model problems having parameters with complicated mapping relationships. NN is a computing system made up of a number of simple and highly interconnected processing elements, which processes information through its dynamic state response to external inputs. The Neural Network architecture, used in this study, is a multilayer feed forward network using SPSS 16. The architecture which provides the best fit for the data is the network with three hidden layers and an output layer. The learning and momentum parameters are 0.6 and 0.9 respectively and error convergence falls below 0.01 Per cent. Tan sigmoid is the activation function chosen for the hidden layers, and the pure linear function is used to get the output layer which is the real time values. The architecture which provides the best fit for the data is the network with five input layers, twelve covariate variables and one hidden layers and one output layer, as shown in Figure.

**Figure – 1**  
**Basic Neuron Model for Overall satisfaction with attractive factors Model**



The neural network model stems from the studies on the working of human brain systems, and serves as an associative memory between the input and output patterns. These models contain many densely interconnected elements called Neurons or Nodes. The neuron has a set of “n” inputs “x”<sub>j</sub>, where the subscript “j” takes a value from 1 to “n” and indicates the source of the input signal. Each input “x”<sub>j</sub> is weighted before reaching the main body of the processing elements, by the connection strength or weight factor “w<sub>j</sub>”. (Multiplied by “w<sub>j</sub>”). In addition, it has a bias term “w”<sub>0</sub>, a threshold value that has to be reached or exceeded for the neuron to produce a signal, a non-linearity function F that acts on the produced signal (or activation) R, and an output O. The non-linearity function used in this network is the sigmoid. The sigmoid is very popular because it is monotonic, is bounded, and has a derivative: f'(s)=kf(s) [1-f(s)]. The model used in this work is the Feed Forward Multilayer perception, using the Back Propagation Algorithm.

- 5-Input layers
- 12-Covariates layers
- 1-Hidden layers
- 1-Output layer

All inputs are analyzed in the experimental validation part, with appropriate output results by the illustration of graphs. So the influences of the parameters of tensile strength. The validation of the estimated NN and Experimental value illustrations is shown in Figure.

**Table –2**  
**Neural Network Model for attractive factors of online shopping customers**

Input Layer	Factors	1	Gender
		2	Educational Qualification
		3	Occupation
		4	Monthly Income
		5	Place of Residence
	Covariates	1	Discount
		2	Convenience
		3	Information service
		4	Home Delivery
		5	Delivery speed
		6	Making order at any time.(24 hours)
		7	Time saving
	8	Less efforts	
9	No strain / stress		
10	Visuals and information		
11	Web page design		
12	Easy access into the web site		
	Number of Units	30	

		Rescaling Method for Covariates	Standardized
Hidden Layer		Number of Units	3 <sup>a</sup>
		Activation Function	Softmax
Output Layer	Dependent Variables	1	Overall Satisfaction of Online Shopping
		Number of Units	7
		Activation Function	Identity
		Error Function	Sum of Squares
a. Determined by the testing data criterion: The "best" number of hidden units is the one that yields the smallest error in the testing data.			

Source: Output generated from SPSS 19

The attractive factors of online shopping customer’s model parameters are modeled by using the Neural Network Method. The parameters are optimized so as to determine the set of parameters, which will influence the increase in the overall Satisfaction of online shopping customers.

**Table 3**  
**Model Summary for Neural Network Model**

Training	Sum of Squares Error	256.261
	Percent Incorrect Predictions	67.0%
	Training Time	0:00:02.603
Testing	Sum of Squares Error	125.347 <sup>a</sup>
	Percent Incorrect Predictions	71.7%
Dependent Variable: Overall Satisfaction of Online Shopping		

Source: Output generated from SPSS 19

**Table – 4**  
**Independent Variable importance for Neural Network Model**

	Importance	Normalized Importance
Gender	.005	4.7%
Educational Qualification	.011	11.1%
Occupation	.006	5.9%
Monthly Income	.005	5.1%
Place of Residence	.012	11.9%
Discount	.059	57.2%
Convenience	.085	82.5%
Information service	.073	70.7%
Home Delivery	.058	56.7%
Delivery speed	.091	87.9%
Making order at any time.(24 hours)	.085	82.3%
Time saving	.081	79.1%
Less efforts	.103	100.0%
No strain / stress	.099	95.8%
Visuals and information	.081	78.4%
Web page design	.054	52.5%
Easy access into the web site	.092	89.6%

Source: Output generated from SPSS 19

The table and diagram shows less efforts, No strain / stress, Delivery speed and Easy access into the web site contribute more towards the output of attractive factors. Thus, attributes of attractiveness long important to consumers are now found in new forms in online shopping. In particular, web-based purchasing is the ultimate in time savings, effort savings and accessibility. (Mary Wolfinbarger and Mary Gilly, 2001). Reliable and timely delivery is one of the fundamental objectives for online shoppers. Online shoppers make their orders at their office or home anticipating quicker delivery than offline purchasing, and timely delivery on his convenient time. The timely and reliable delivery makes users satisfied so that they will keep using the Internet shopping malls.

**1.8 FINDINGS**

- Found out that all the variables under attractive factors had significance value less than 0.05 at 5% level of significance, thus the null hypothesis is rejected. Thus it is concluded that the customers are attracted by Discount, Convenience, Information service,

Home Delivery, Delivery speed, making order at any time (24 hours), Time saving, Less efforts, No strain / stress, Visuals and information, Web page design and Easy access into the web site.

- The attractive factors of online shopping customer's model parameters are modeled by using the Neural Network Method. The parameters are optimized so as to determine the set of parameters, which will influence the increase in the overall Satisfaction of online shopping customers.
- The table 2, 3, and 4 and diagram 1and2 shows less efforts, No strain / stress, Delivery speed and Easy access into the web site contribute more towards the output of attractive factors. Thus, attributes of attractiveness long important to consumers are now found in new forms in online shopping. In particular, web-based purchasing is the ultimate in time savings, effort savings and accessibility.

### 1.9 SUGGESTIONS

- As the online shopping crosses national boundary easily, the web pages should be designed in all languages. The customers may be given opportunity to choose their language to read the web page.
- The online sellers should spread their web pages in all the web sites and there should be every possibility to good user experience in the internet. For this, the web pages should be easily accessible to everyone. And there is a need for updating the web page frequently.
- New customer acquisition is very important in any kind of business. For this, the firms have to improve customer satisfaction dimensions such as availability, responsiveness, timeliness, completeness, and convenience. Firms have to focus on all dimensions of satisfaction without preferring one to other. The companies will have to focus on improving their marketing and sales strategies to pull more customers into online shopping. Businesses will have to explore more ways to increase their customers and enhance their branding. This can be done effectively through email and web marketing.

### 1.10 CONCLUSION

The present study is an attempt on the online shopping experience of the customers. The research proves that the online shopping experience leads the customers to maximum advantage at the large extent. And at the same time, it offers the maximum convenience to them in such a way that they are able to transact the shopping at any time. The attraction arises to the customers from their economic benefit and practical ease so that the customers will get in touch of the online shopping.

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