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# A Study on Consumer Awareness about Privacy and Security Risk in Online Shopping with Special Reference to College Students at Trichy

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**Abstract:** *This paper provides an analysis of shoppers perception on security and privacy problems in online shopping. The most objective of this analysis is to analyse the shoppers perceptions on security and privacy and formulate recommendations supported the findings that might contribute in eradicating these problems and boosting customer confidence. It additionally provides a quick discussion on the implications of online buying each customers and firms, the rising issues over privacy and security, and also the importance of shoppers perceptions on security and privacy problems in bolstering online searching adoption.*

*Determining the perceptions of shoppers on security and privacy problems associated with e-commerce can profit IT security suppliers and internet businesses in crafting a multifarious approach in addressing those perceptions, one that effectively combines technological solutions and psychological approaches so as to resolve one among the last remaining obstacles to the widespread use of on-line shopping.*

**Keywords:** *Shoppers perception, technological solutions, online searching behaviour, perceived risk, trust & security, e-commerce, web site design.*

## I. INTRODUCTION

Online searching (sometimes called e-tail from "electronic retail" or e-shopping) may be a sort of electronic commerce that permits shoppers to directly obtain product or services from a vendor over the Internet using a web browser. Alternative names are: e-web-store, e-shop, e-store, net search, web-shop, web-store, on-line store, on-line shopfront and virtual store. Mobile commerce describes buying from an internet retailers mobile optimized online website or app.

An online store evokes the physical analogy of shopping for merchandise or services at a bricks-and-mortar merchant or store the method is named business-to-consumer online shopping. In the case wherever a business buys from another business the method is named business-to-business online searching. The largest of those on-line merchandising companies square measure Alibaba, Amazon.com and ebay.

## II. PRIVACY AND SECURITY RISKS

Privacy risk is sometimes called intimacy risk. E-shops usually register all personal information of their customers, not only the data they are willing to give when finishing the acquisition forms, however conjointly information concerning their activity on the web site, making a profile for every client. This would not be such a big issue if the e-shops use the data only for their own interest, yet more frequently customer databases are sold to third parties, exposing consumers to unwanted advertising messages.

Security risk is additional or less connected to the monetary one. If financial risk discussed before referred to the probability of losing the money paid for a product because of product faults or low performance, security risk includes financial risk with a larger stake. When paying by master card over the net the consumer risks losing all the money in his bank account as his personal information can be stolen by hackers.

## III. NEED FOR THE STUDY

- A. This study examines the consumer perceived risk in online transaction.
- B. To find out the factors perceived as a risk with the product/service in online transaction.
- C. To find out the various threats which consumer perceived as a risk in online transaction.
- D. To analyse the factors perceived as a risk under functional loss, delivery loss, financial loss, social loss, time loss, physical loss, economic loss and after-sales loss.

#### IV. OBJECTIVE OF THE STUDY

- A. To study various types of perceived risk associated with online shopping.
- B. To analyse impact of various perceived risk on consumers online purchase intention.
- C. To study factors influencing risk for online shopping.
- D. To analyse impact of identified factors on each type of risk.
- E. To study about quality and delivery risk in online shopping.

#### V. RESEARCH METHODOLOGY

Descriptive research design is used in the study. The descriptive research I concerned with describing the characteristics of a particular individual or of a group. It is also concerned to involve with the particular predictions with narration of facts and characteristic regarding individual, group and situation. This research is completely based on the descriptions of factors that lead to the user's decision making process. So the sampling technique used was non-probability convenience sampling. In this study the sample size consists of 159 respondents from various parts of trichy city. We used regression analysis for testing of hypothesis. For visual illustration of finding and results bar charts, pie charts and tables etc.

#### VI. PERCENTAGE ANALYSIS

Table No:4.1

Table Name: Age of the respondents

No.	Particulars	No. of respondents	Percentage
1	20-21	95	60
2	22-23	48	30
3	24-25	16	10
	TOTAL	159	100

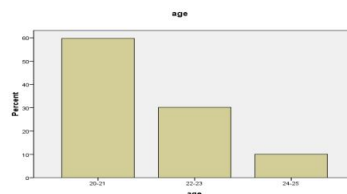


Figure no: 4.1

- 1) *Interpretation:* It is inferred that the respondents are in the age group 20-21 years 60%, 22-23 years 30%, 24-25 years 10% who are all doing online purchases.
- a) *Inference:* From this analysis, majority of the respondents are between 20-21 age groups.

Table no: 4.2

Table Name: Gender of the respondents

No.	Particulars	No. of respondents	Percentage
1	Male	64	40
2	Female	95	60
	TOTAL	159	100

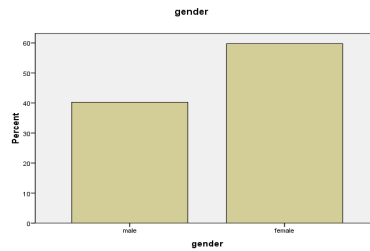


Figure no: 4.2

2) *Interpretation:* It is inferred that 40% of the respondents are male and 60% of the respondents are female.

a) *Inference:* From this analysis, majority of the respondents are female.

Table no: 4.3

Table Name: Education level of the respondents

No.	Particulars	No. of respondents	Percentage
1	Bachelor degree	48	30
2	Master degree	111	70
	TOTAL	159	100

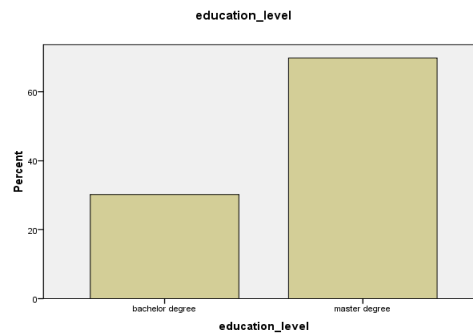


Figure no:4.3

3) *Interpretation:* It is inferred that 30% respondents are bachelor degree, 70% respondents are master degree.

a) *Inference:* From this analysis, majority of the respondents are master degree.

Table no: 4.4

Table Name: Favourite Online shopping website of the respondents

No.	Particulars	No. of respondents	Percentage
1	Flipkart	32	20
2	Amazon	56	35
3	Snapdeal	39	25
4	Ebay	24	15
5	Jabong	8	5
	TOTAL	159	100

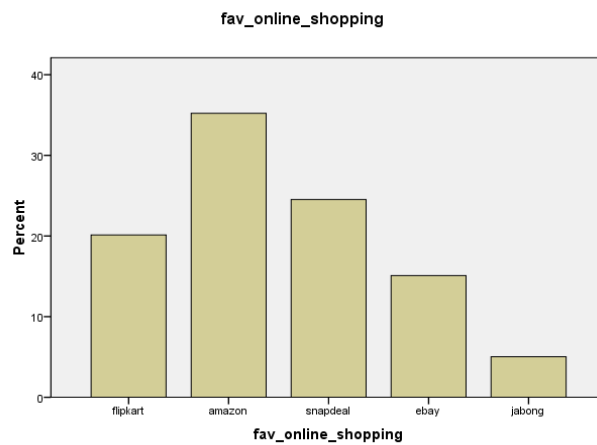


Figure no: 4.4

- 4) *Interpretation:* It is inferred that 20% respondents have chosen flipkart, 35% have chosen amazon, 25% have chosen snap deal, 15% have chosen ebay and 5% have chosen jabong as their favourite online shopping website.
- a) *Inference:* From this analysis, majority of the respondents are have chosen amazon as their favourite online shopping website.

Table no: 4.5

Table Name: Frequency of Online shopping

No.	Particulars	No. of respondents	Percentage
1	Routine	16	10
2	Occasionally	80	50
3	Basedon requirement	63	40
	TOTAL	159	100

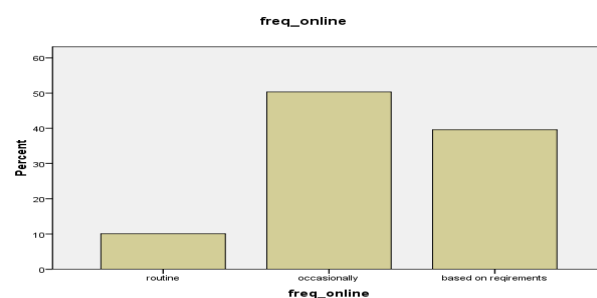


Figure no: 4.5

- 5) *Interpretation:* It is inferred that 10% of the respondents purchasing through online in routine. 50% of the respondents purchasing through online occasionally and 40% of the respondents purchasing through online based on their requirement.
- a) *Inference:* From this analysis, majority of the respondents are purchasing through online based occasionally.
- b)

## VII. CHI-SQUARE TEST

### A. Checking Relationship Between Age Of The Respondent And Convenience In Online Shopping

#### 1) Hypothesis

- a) *H0:* There is no significant association between age and convenience in online shopping.
- b) *H1:* There is significant association between age and convenience in online shopping.

Table no: 4.6

Table name: Age vs. convenience in online shopping

	Value	df	Asymptotic significance (2-sided)
Pearson chi-Square	47.421 <sup>a</sup>	4	.000
Likelihood Ratio	52.115	4	.000
Linear by-Linear Association	8.282	1	.004
No. of Valid Cases	159		
a. two cells (22.2%) have expected count less than five. The minimum expected count is 1.61			

## 2) Chi-Square Result

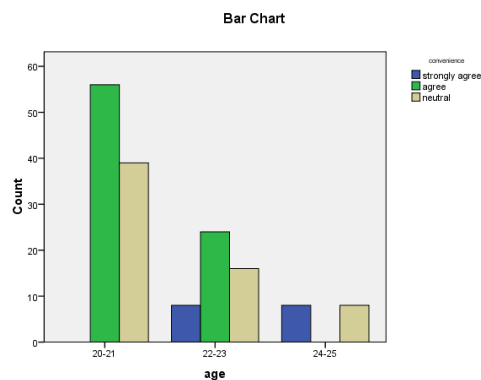
Calculated Value : 47.147

Degrees of freedom : 4

Tabulated Value : 9.488

Significant Level : 5% level

Comparison: 47.147 > 9.488



3) *Interpretation:* Calculated value is higher than table value, therefore null hypothesis, H<sub>0</sub> is rejected. There is significant association between age and convenience in online shopping.

## B. Checking Relationship Between Frequency Of The Respondent And Discounts/Offer In Online Shopping

### 1) Hypothesis

a) *H<sub>0</sub>:* There is no significant association between frequency and discounts/offers in online shopping.

b) *H<sub>1</sub>:* There is significant association between frequency and discounts/offers in online shopping.

Table no: 4.7

Table name: Frequency vs. Discounts/offers in online shopping

	Value	Df	Asymptotic significance (2-sided)
Pearson chi-Square	25.219 <sup>a</sup>	6	.000
Likelihood Ratio	26.695	6	.000
Linear by-Linear Association	.101	1	.750
No. of Valid Cases	159		
a. three cells (25.0%) have expected count less than five. The minimum expected count is 1.61			

## 2) Chi-Square Result

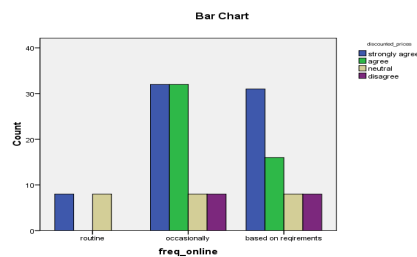
Calculated Value : 25.219

Degrees of freedom : 6

Tabulated Value : 12.59

Significant Level : 5% level

Comparison:  $26.219 > 12.59$



3) *Interpretation:* Calculated value is higher than table value, therefore null hypothesis,  $H_0$  is rejected. There is significant association between frequency and discounted offers in online shopping.

## C. Checking Relationship Between Age Of The Respondent And Type Of Product Purchased Through Online Shopping

### 1) Hypothesis

a)  $H_0$ : There is no significant association between age and type of product purchased through online shopping.

b)  $H_1$ : There is significant association between age and type of product purchased through online shopping.

Table no: 4.8

Table name: Age vs. type of product purchased through online shopping

	Value	df	Asymptotic significance (2-sided)
Pearson chi-Square	58.715 <sup>a</sup>	8	.000
Likelihood Ratio	76.747	8	.000
Linear by-Linear Association	34.263	1	.000
No. of Valid Cases	159		
a. six cells (40.0%) have expected count less than five. The minimum expected count is .81			

## 2) Chi-Square Result

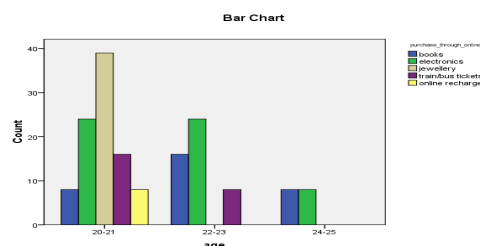
Calculated Value : 58.715

Degrees of freedom : 8

Tabulated Value : 15.507

Significant Level : 5% level

Comparison :  $58.715 > 15.507$



3) *Interpretation:* Calculated chi- sq. number is larger than the table number. Therefore null hypothesis,  $H_0$  is rejected. There is significant association between age and type of products purchased through online shopping.

## VIII. FINDINGS

### A. Percentage Analysis

- 1) The majority of the respondents are female.
- 2) The majority of the respondents are between 20-21 age groups
- 3) The majority of the respondents are master degree.
- 4) The majority of the respondents are have chosen amazon as their favourite online shopping website.
- 5) The majority of the respondents are purchasing through online based occasionally.

### B. Chi-Square Analysis

- 1) To analyse whether age influences convenience in online shopping which this chi- square test were used, from this obtained value is 47.147, table value for degree of freedom is 4 and level of significance 5% table value comes as 9.488, this shows that age is influencing convenience in online shopping.
- 2) To analyse whether frequency influences discounted/offers in online shopping which this chi- square test were used, from this obtained value is 25.219, table value for degree of freedom is 4 and level of significance 5% table value comes as 12.59, this shows that frequency is influencing discounted/prices in online shopping.
- 3) To analyse whether age influences type of product purchased through online shopping which this chi- square test were used, from this obtained value is 58.715, table value for degree of freedom is 4 and level of significance 5% table value comes as 15.507, this shows that age is influencing type of product purchased through online shopping.

### C. Suggestions

- 1) To lower the transactional risk, should establish a robust mechanism
- 2) To reduce consumer risk with product/service, should build trust with consumers by giving them complete confidence on the product/service such as reliability, responsiveness and assurance.
- 3) Shipping cost of the product should be reduced in online transaction
- 4) To minimize the risk, should show that the business cares about their customer's utility and safety.

## IX. CONCLUSION

From the perspective of a consumer's perceived risk, the consumer is willing to purchase product/service from an online vendor that is perceived low risk, even if the consumer's perceived ease of use on e-Commerce is relatively low. From the study we infer that consumers consider the risk related to the online transaction (i.e., privacy, security, and non-repudiation.) as one of the important factors when they purchase on the Internet. Thus, diminishing such risk is considerably important to online shopping vendors. There are some factors perceived by the respondents, who perceived the most risk with the financial aspects and time loss of online shopping. Finally we conclude that, thus the respondents perceiving less overall risk with online shopping.

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