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A STUDY ON USER PERCEPTION AND AWARENESS RELATED TO ONLINE PRIVACY DURING ONLINE SHOPPING

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ABSTRACT

There is an unprecedented growth in the number of people buying products online. Online shopping is a fast growing phenomenon in India. Indian youngsters are not only buying and selling shares online, but also buying electronic gadgets, books, air tickets, footwear and clothing. Even vegetables and groceries are being purchased online. While many Indians are certainly concerned about their privacy and would never want anyone to eavesdrop, more often they do not take precautionary measures to protect their privacy during online shopping. Many web-retailers and e-commerce portals mention about their privacy policy, but it is always in fine print on the home page and the link for the same is kept at a place which is not prominently seen by user when he or she lands on their webpage for shopping. When a person goes with online shopping he or she gives several information including personal information like name, credit card number, mobile number, age, mail address, email address etc. This makes it necessary to understand if users are aware of the privacy issues and privacy policies of the web-retailers and e-commerce portals. This study attempts to understand, if youngsters in the age group of 20 to 30 years, who shop online are aware of the privacy issues associated with online shopping, and also understand the user's perception on online privacy during their online shopping experience. The study explores to find if there is a significant difference in the perception of online privacy during online shopping between youngsters who are Information Technology (IT) graduates and others from non-IT education background and also between genders.

Keywords: *Online Privacy, Online Shopping, Managing Privacy Setting Online, Privacy Statement, Perception of Privacy*

1. INTRODUCTION

Many Indian customers are buying products and services online and the number is growing year after year. The reasons to buy online are many, including teasing discounts given by the ecommerce portals, the convenience to buy, access to a plethora of assorted items at the click of a button and options to pay for the product or service in an equated monthly instalment mode. For example, Google conducts an online shopping festival every year and the latest was on 10th to 12th Dec 2014. Google calls it as the Great Online Shopping Festival (GOSF). According to IMRB International (formerly Indian Market Research Bureau) GOSF website saw double the traffic in 2014 as compared to 2013. The report also gives the insight that

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ecommerce portals like Jabong, Snapdeal and Amazon were the top three websites which was visited by online shoppers. The IMRB report also indicates that the largest number of shoppers belonged to small towns and cities from India. Also the smaller towns and cities also saw the highest increase in online shoppers compared to GOSF 2013 [16]. With the growth of online shopping, aspects related to privacy during online shopping experience is gaining importance. Online privacy concern is gaining attention with the fast growth of e-commerce, as it is becoming essential to share personal details, while one choose to buy products in an online mode [7]. Milne [8] and Culan [4] have reported in their research that information asymmetry has been reduced by adoption of the privacy policies, by e-commerce portals and web-retailers, but it is imperative to understand how many youngsters are aware of such privacy policies in place.

With the wide spread usage of smartphones among youngsters and the easy access to internet and e-commerce portals and their shopping apps, it has undoubtedly given rise to the need to understand the level of privacy awareness. While understanding the user's perception on privacy during online shopping is important. It is all the more important to sensitize the youth with privacy issues, as not doing so will be a high risk for the society at large.

2. LITERATURE REVIEW

According to the Global survey conducted by Nielsen in 2014 the ecommerce business model is growing rapidly across the globe. The purchase intensions of customers have doubled in three years especially in non-consumable durables, entertainment-related products, e-books, clothing, event tickets airline and hotel reservations, sporting goods and toys. It's a fact that internet penetration is different across the countries. As per the study conducted among 30,000 consumers in 60 countries throughout Asia-Pacific, Europe, Latin America, the Middle East, Africa and North America, Asia –Pacific leads in online purchase [11]. While online shopping and ecommerce is in its fast paced growth, privacy issues and concerns cannot be ignored. As defined by Alan and Western way back in 1967, "privacy is the claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others". The privacy definition by Alan Westin [1] is certainly relevant today for researchers, businesses, and even stakeholders. However, this definition does not cover an important distinction in privacy decision making: protecting information is based on different marketplace activities and can differ a normal off the line shopping to an on line shopping process. According to Smith et al.[14] there are four dimensions of consumer privacy concerns. This includes collection of personal information, unauthorized secondary use, errors and improper access to personal information [13]. These concerns make a lot of sense for an online shopping customer. Generally the web-retailers and online shopping portals post privacy policies to deal with the privacy concerns [4] or they display privacy seals [3] in order to convey their information practices. Although such practices exist, Tedeshci [15] reported in his research study that 82% of online shoppers did not have any issues in giving their personal data to a new shopping website site in exchange for the chance to be eligible for some financial benefits. The ethical practice of business demands that that privacy information has to be shared on the shopping website and reputed ecommerce portals follow it. A consumer can read the "privacy policy" or "security policy" section to understand the type of information that is gathered by the company and also understand if the company is protecting their information, or if the same will be shared with a third party, along with the ways in which it will be shared [12] World Wide Web consortium's Platform for privacy preferences is one of the initial efforts towards privacy protection [7]. Privacy seal programs evolved over the years in order to boost the consumer's confidence in online purchase and work on the principles of disclosure and information consent. Though privacy seal programs like TRUSTe and BBBonline have gained popularity there are many online shopping portals who do not have such logos on their website. It was also found by studies that majority of companies gave attention to areas like personal data, cookies and contact information but did not give importance to privacy issues related to surveys, questionnaires and public forums[6]. Belangeret al. [2] in his research found no evidence to conclude that, privacy seals impact individuals' intention to purchase, while Moores [10] found that consumers do not have a clear idea about privacy seals. Similarly, consumers do not fully

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understand the meaning of privacy seals as per the empirical evidences [10].There are research evidence to show that privacy seals may improve consumers' perceptions of the vendor [9].Also according to a study conducted by Dhanya and Raman [5] on mobile security awareness it was found that there is a relationship between gender and security awareness and males were more aware of more security threats than females. It was also revealed that IT graduates are more informed about security of smartphones, but there is lack of literature review to understand or give insights on how to Indian youngster treat these privacy policy while they go and buy products online.

This objective of this study is to understand, if youngsters in the age group of 20 to 30 years, who shop online are aware of the privacy issues associated with online shopping, and also understand the user's perception on online privacy during their online shopping experience. The study explores to find if there is a significant difference in the perception of online privacy during online shopping between youngsters who are Information Technology (IT) graduates and others from non-IT education background and also between genders.

3. RESEARCH METHODOLOGY

After extensive literature review, the following hypothesis were formulated to be tested. The data was collected from a sample of the population, using online questionnaire floated to the respondents.

H1. INDIAN YOUNGSTERS IN PUNE, IN THE AGE GROUP OF 20 TO 30 YEARS ARE AWARE OF THE PRIVACY ISSUES ASSOCIATED WITH ONLINE SHOPPING.

H2: There Is No Significant Difference In Perception Of Privacy During Online Shopping Between Genders

H3: There is no significant difference in perception of privacy during online shopping between youngsters with IT background and Non IT back ground

A thorough literature review helped better understand the body of knowledge in this domain and the online questionnaire was prepared for collecting the primary data. A pilot study was conducted amongst a group of youngsters and the questionnaire was further refined. A stratified sampling technique was used to collect data from youngsters in the age group of 20 to 30 years. Data was collected from students pursuing their post graduate course and proper care was taken to ensure that good representation of youngsters with IT and Non IT background was included in the sample. Proper care was also taken that only those youngsters who shopped online at least 2 times in the past 6 months were included in the study. The questionnaire was administered to 2550 and 1852 fully filled response was received .Minitab 15 and SPSS was used to analyze the data.

4. DATA ANALYSIS AND INTERPRETATION OF RESULTS

To test the first hypothesis H1: Indian youngsters in Pune, in the age group of 20 to 30 years are aware of the privacy issues associated with online shopping, we posted a question to the user asking, "Are you aware of the privacy issues related to online shopping" and the option for the answer was dichotomous, i.e. "Yes " or "No" to understand their perception on this issue. We considered that if less than 60% of the population feel that they are not aware about the privacy issues associated with online shopping, then we would conclude that the majority "perceive" that they are not aware of the privacy issues related to online shopping. Here our sample size was 1852 youngsters who were in the age group of 20 to 30 years who did online shopping at least 2 times in the past 6 months and the respondents who responded that they were aware of the privacy issues related to online shopping were 1062. We used a one proportion test to test the hypothesis and got the result as tabulated in Table 1.1

From the Table 1.1 the exact P-Value is 0.000 and is less that 0.05 and hence we can conclude and infer that majority perceived that they are lack awareness of the privacy issues associated with online shopping. We had further asked questions to understand if their level of awareness by asking them to give a score between 0 to10 (continuous scale) for their level of awareness related to privacy while shopping online.

Followed by this, questions including- Do they read the privacy policy of the e-commerce

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portal? Do they check for the secure and privacy logos while shopping in the e-commerce portals? Do they check the validity of the privacy and security logos? Do they find if the sites stores and tracks their behaviour during their purchase? Do they find if the site uses their financial information to determine the content of ads displayed to them?

We then used a multiple regression analysis to understand the effect of these in-dependent variables on the dependent variable i.e. their level of awareness of privacy related issues during online shopping. The results are shown model summary in Table 1. In the Table 1.2 (model summary) the value of R is 0.939 and this indicates that good level of prediction by the model. Model Summary gives the adjusted R Square Of .881. The weighted combination of the predictor variables explained approximately 88% of the variance of awareness of privacy. The loss of very little strength in computing the Adjusted R Square value is mainly due to the relatively large sample size combined with a relatively small set of predictors. The F ratio in the anova table 1.3 given below shows that the independent variables statistically and significantly predicts the dependent variable. With F (5,1056) = 1569.5, p -0.000 showing that the regression model is a good fit of data. The equation for Awareness can be derived as Awareness Level = -1.1 + 0.713(Read Privacy Policy) +0.393(Check for Privacy Logo) + 0.032 (Check for the Validity of the Privacy Logo) + 0.323 (Check if Sites stores and tracks personal information) + 0.684 (Checks if the site stores financial information to showcase advertisements) . This is obtained from the coefficients table as shown in Table 1.4 Next we checked for the statistical significance of each of the independent variables. The t values and the significance obtained in the Table 1.4 shows that all the independent variables are influencing the privacy awareness level (having significance of 0.000) except the variable “checking for the validity of the privacy logo” which takes the value 0.220. This indicates that youngster perception of privacy awareness is not significantly affected by the validity of the logo taken independently. This also makes us to infer that once the youngsters see the logo they tend to trust it irrespective of checking the validity of the logo.

Hence the hypothesis H1, Indian youngsters in Pune, in the age group of 20 to 30 years are aware of the privacy issues associated with online shopping is not supported also the major variables that influence their awareness is given by the equation Awareness Level = -1.1 + 0.713(Read Privacy Policy) +0.393(Check for Privacy Logo) + 0.032 (Check for the Validity of the Privacy Logo) + 0.323 (Check if Sites stores and tracks personal information) + 0.684 (Checks if the site stores financial information to showcase advertisements) To test the second hypothesis H2:There is no significant difference in perception of privacy during online shopping between genders, we used chi-square test for independence, also called Pearson's chi-square test or the chi-square test of association. This tool helped us to identify if there is a relationship between gender and awareness to privacy while shopping online. The Table 1.5 shows that the level of awareness for privacy while shopping online is low in both males (33.3%) and females (12.1%). The table 1.6 gives the details chi-square test results which show the Pearson chi-square value as 0.505 and 0.477. We can infer that there is no statistically significant association between Gender and awareness to privacy during online shopping.

The table 1.7 gives the values of Phi tests and the result of the test shows that of the strength of association. We can infer from the result that the strength of association, which takes a value of 0.22, between the gender and awareness to privacy is very weak. Hence the hypothesis H2, There is no significant difference in perception of privacy during online shopping between genders is supported statistically. To test the third hypothesis H3:There is no significant difference in perception of privacy during online shopping between youngsters with IT background and Non IT back ground, we used chi-square test for independence. This tool helped us to identify if there is a relationship between youngster with IT or Non IT background and awareness to privacy while shopping online. The Table 1.8 shows that the level of awareness for privacy while shopping online is low in both for youngsters with IT (24.5%) and Non-IT (21.0%) backgrounds. The table 1.9 gives the details chi-square test results which show the Pearson chi-square value as 4.971 and 0.026. We can infer that there is statistically significant association between IT and Non IT background of youngsters and

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awareness to privacy during online shopping. The table 2.1 gives the value of Phi test and the results of the test show that of the strength of association. We can infer from the result that the strength of association, which takes a value of -0.068, between the gender and awareness to privacy is very weak, but negatively correlate. Hence the hypothesis H3, There is no significant difference in perception of privacy during online shopping between youngsters with IT background and Non IT back ground is not supported statistically as there is significant difference, which is found using statistical evidence.

5. CONCLUSION

In this era of where online shopping is growing at a fast pace, and youngsters are using online shopping for filling many of their product and service needs, our study reveals youngsters in the age group of 20 to 30 years, who shop online are not aware of the privacy issues associated with online shopping, The study also has revealed the perceptions of online privacy by youngsters during online shopping experience. It was revealed that there is no significant difference exhibited in privacy awareness and gender, but significant differences were found in level of awareness of youngsters who are IT graduates over Non IT graduates. This study was based on the perception of users and in future we would like to extend the study to find actual behavioural patterns and its relation to the perception on privacy awareness during online shopping

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Table 1.1
Aware Of The Privacy Issues Associated With Online Shopping

Test of p = 0.6 vs p < 0.6

X	N	Sample p	95% Upper Exact Bound	P-Value
438	1062	0.412429	0.437905	**0.000**

Table 1.2
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.939[a]	.881	.881	.865

Table 1.3
Anovaa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5875.525	5	1175.105	1569.500	.000[b]
	Residual	790.641	1056	.749		
	Total	6666.166	1061			

Table 1.4
Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.130	.120		-9.441	.000
Read_Privacy_Policy	.713	.037	.347	19.033	.000
Check_for_Privacy_Logo	.393	.029	.211	13.481	.000
Check_Validity_of_Privacy_Logo	.032	.026	.013	1.227	.220
Check_if_site_stores_and_tracks	.323	.027	.174	12.135	.000
Check_if_site_stores_Fin_info_forAds	.684	.029	.373	23.730	.000

a. Dependent Variable: Awareness

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*Table 1.5: GENDER * AWARE_Y_N Crosstabulation*

			AWARE_Y_N		Total
			N	Y	
GENDER	F	Count	166	129	295
		% within GENDER	56.3%	43.7%	100.0%
		% within AWARE_Y_N	28.7%	26.7%	27.8%
		% of Total	15.6%	**12.1%**	27.8%
	M	Count	413	354	767
		% within GENDER	53.8%	46.2%	100.0%
		% within AWARE_Y_N	71.3%	73.3%	72.2%
		% of Total	38.9%	**33.3%**	72.2%
Total		Count	579	483	1062
		% within GENDER	54.5%	45.5%	100.0%
		% within AWARE_Y_N	100.0%	100.0%	100.0%
		% of Total	54.5%	45.5%	100.0%

Table 1.6: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.505[a]	1	.477		
Continuity Correction[b]	.412	1	.521		
Likelihood Ratio	.506	1	.477		
Fisher's Exact Test				.492	.261
Linear-by-Linear Association	.505	1	.477		
N of Valid Cases	1062				

Table 1.7: Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.022	.477
N of Valid Cases		1062	

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*Table 1.8: IT and Non-IT * AWARE /NOT AWARE Cross-Tabulation*

			AWARE /NOT AWARE		Total
			No	Yes	
IT/NIT	Non IT	Count	228	223	451
		Expected Count	245.9	205.1	451.0
		% within IT/NIT	50.6%	49.4%	100.0%
		% within AWARE NOT AWARE	39.4%	46.2%	42.5%
		% of Total	21.5%	**21.0%**	42.5%
	IT	Count	351	260	611
		Expected Count	333.1	277.9	611.0
		% within IT/NIT	57.4%	42.6%	100.0%
		% within AWARE NOT AWARE	60.6%	53.8%	57.5%
		% of Total	33.1%	**24.5%**	57.5%
Total		Count	579	483	1062
		Expected Count	579.0	483.0	1062.0
		% within IT/NIT	54.5%	45.5%	100.0%
		% within AWARE NOT AWARE	100.0%	100.0%	100.0%
		% of Total	54.5%	45.5%	100.0%

Table 1.9: Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.971[a]	1	.026		
Continuity Correction[b]	4.697	1	.030		
Likelihood Ratio	4.969	1	.026		
Fisher's Exact Test				.029	.015
Linear-by-Linear Association	4.967	1	.026		
N of Valid Cases	1062				

Table 2.1
Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-0.068	0.26
N of Valid Cases		1062	