

## Exploring Demographic Differences in Online Purchase Frequency

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### Abstract

*Online shopping and internet growth has reshaped the retailing industry in India. It provides the society a more convenient and effortless lifestyle by enabling them convenient shopping at the comfort of home, variety of products, fast service and reduced prices. Online Shopping brings opportunity to retailers and marketers all over the world as the number of internet users and online shoppers is continuously increasing with increasing penetration of internet. So, it is vital of marketers to identify the consumers online purchase pattern and trends. The present research explores the online purchase frequency of Indian consumers and also uncovers the demographics differences existed in their online purchase frequency. With this endeavour, primary data were collected through a self administered questionnaire and analysis was done. The study found a significant association between age and online purchase frequency of Indian consumer but no association were found with education level and profession of the respondents. The results revealed that Indian online shoppers majorly prefer online shopping once a month or few times a month. Majority of Indian online Shoppers are occasional shoppers and young respondents of age group 18-35 years are more frequent online shopper in comparison to old age respondents.*

**Keywords-** Demographics, Internet, Online shopping, Online pattern

### 1. Introduction

As the internet evolved rapidly, it changed the way of consumers' shopping and their choices of various products and services. It is fast influencing the daily life of people's and becoming a focus of shopping, advertising and business activity (Rowley Jennifer, 1998; Hsieh

et al., 2013). The penetration of Internet in India grew from 4 per cent to 34.08 per cent in 2016. Since 2014, Government of India also launched various initiatives like Digital India, Make in India, Start-up India etc. to support the e-commerce growth in the country and in 2017-2018 budget government announced Bharat Net Project and allocated US\$ 1.55 billion for availability of high speed broadband connectivity on optical fibre at low tariffs in more than 150,000 gram panchayats by the end of 2018. With this growing internet penetration, the internet users' base is crossed 829 million in India by 2012. This increasing penetration of internet is likely to attract more and more people to e-commerce and online shopping (IBEF Report, 2017). The e-commerce industry is moving at high speed in India and it believes that Indian e-commerce market will touch 64 billion US dollar by year 2020, moreover 200 billion US dollar in 2026. This huge growth, made Indian e-commerce market the world largest e-commerce market after US by the year 2034 (IBEF Report, 2017). In case of online shopping, nearly 108 million consumers in India purchased their products over internet in year 2017 and this number is expected to rise to 120 million at the end of 2018 (ASSOCHAM-Resurgent Report, 2017). Online shopping is third most widely used and accepted activity of internet after e-mail, messaging and net browsing (Lee Na & Zhang Ping, 2002; Forsythe & Shi, 2003). Online shopping meets the consumers' needs and wants in more effective and efficient way than the traditional shopping (Grewal et al., 2002). It facilitates the consumers to collect information effortlessly and easily about the price, availability of product, quality, and specifications of the product and comparison of particular brand with other brands product. It means that consumers can make better and good purchasing decisions through online shopping which is not feasible in case of traditional shopping (Brown et al., 2003).

## **2. Literature Review**

Indian shoppers are very much interested in online buying, which brighten the future of online shopping in India. He found that Indian consumers prefer online purchase once in every six month and plan their online purchase in advance by conducting product research (Banu et al., 2014). Globally the frequency of online shopping varies greatly. Asian, Western European and North American consumers are most likely to do online shopping and per capita online purchases are less frequent in Latin America, Eastern Europe and Russia, and the Middle East and Africa (KPMG Global Online Consumer Report, 2017). Demography of online shoppers like age, gender, education marital status, household income, residential location were commonly found

to be significant predictors of online shopping (Sultan & Henrichs, 2000; Mehta & Sivadas, 1995; Fram & Grady, 1997; Kunz, 1997). Kim & Kim (2004), reported that majority of online shoppers were aged under 44 years and shoppers above 50 years expected to become a more significant portion of the online shopping population whereas other authors stated that the online shoppers were mainly young in age and they were probably purchase products online more in comparison to than old age group consumers. Hence, most of online shoppers were young in age and prosperous, high education level, and spend their most of time on the internet (Swinyard & Smith, 2003; Allred et al., 2006). Moreover regarding education, majority of online shoppers were graduated i.e. well educated (Kim and Kim 2004; Tamini et al., 2005). KPMG Global Online Consumer Report (2017) reported that the shoppers who born in between year 1966 to 1981 are generally referred as generation X and their frequency of buying products through online shopping was high in comparison to other age group consumers. They were doing more online shopping than technology savvy younger generation who believed to be more prominent online shoppers across world. Contrary to this popular belief, X Generation consumers purchased around twenty percent more products online than the young age consumers, who popularly known as Millennials. Moreover, income level and life stages were also influence the consumers intention of online shopping as well as traditional offline shopping, Generation X consumers, were doing more online shopping than the younger ones as they were more established in their careers and family whereas younger millennials were entering in the workforce and adopting their new lifestyle. Consumers purchased around twenty percent more products online than the young age consumers, who popularly known as Millennials. Moreover, income level and life stages were also influence the consumers intention of online shopping as well as traditional offline shopping, Generation X consumers, were doing more online shopping than the younger ones as they were more established in their careers and family whereas younger millennials were entering in the workforce and adopting their new lifestyle. Regarding gender research suggested that online shopping intention among male consumers have been found more significant than female consumers (Strutton 2007; Kim & Kim 2004; Stafford et al., 2004; White et al. 2004; Tamini et al. 2005). In 2016, male shoppers spent more money on online shopping in India than females in every age group. Women spent noticeably less money online. But females online shoppers of age group 25-34 years should not be ignored as they account for 12.2 million ecommerce users in India, which is higher than entire markets of many country (<https://www.eshopworld.com/indian-ecommerce-insights/>). Verchopoulos et al. (2001) found

that online shoppers in Greece were mostly male of young in age, with high education level and income level. According to Master Card Worldwide Insights (2008) increase in income level of consumers, high penetration of internet and cultural variables are the main forces for the growth of online shopping. Moreover growth of online shopping in India and China is also likely due to rise in household income and growing penetration of internet in these countries. In these two countries, online shopping will grow more in future as the population of upper middle class increase, living standard and income of the citizens' increases. Moreover it found that, India was the only country where consumers of age group 18-29 spent highest average amount of money on online shopping.

### **3. Objective of the Study**

The purpose of this study is to explore the purchase frequency of online shopper's and to identify the demographic difference in online shoppers purchase frequency.

### **4. Research Methodology**

#### *4.1 Data Collection and Sampling*

The survey was conducted through a questionnaire and data of online shoppers collected from Haryana, Delhi & NCR region of India. Total 500 responses from web –based and offline survey were obtained but 439 responses were finally found fit to include in study. Non probability convenience sampling was used to choose the respondents for data collection.

#### *4.2 Hypotheses Proposed for Study*

Based on the literature review, the following three null hypotheses have been framed and tested to study the demographic difference of variables age, education and profession in online buying frequency of consumers.

*H<sub>01</sub>: There is no significant association exist between online purchase frequency and age of respondents*

*H<sub>02</sub>: There is no significant association exist between online purchase frequency and education level of respondents*

*H<sub>03</sub>: There is no significant association exist between online purchase frequency and profession of respondents*

## 5. Results and Discussion

### 5.1 Consumer's Demographics

The sample consisted of 59.7 percent males and 340.3 percent females. 24.1 percent of respondents were aged between 18 and 24 years, 28.7 percent were aged between 25 and 30 years, 23.2 percent were aged between 31 and 35 years, 13.9 percent were aged between 36 and 40 years and 10.1 percent were aged above 40 years. Majority of the respondents included in the study were well educated (graduates and higher qualification; 87.6 percent). Moreover, 69.2 percent respondents were employed and 30.8 percent of respondents were unemployed. Data were analyzed using SPSS 20 version.

### 5.2 Online Purchase Frequency of Consumers

To identify consumers online purchase frequency subsequent analysis was done. Frequency distribution and percentage were assessed and shown in table-I. Results shows that only 5.9% of respondents purchased products online very frequently (few times a week) and 21.0% of respondents purchased products few times a month. 24.1% of shoppers purchased once in a month and only 14.1% of shoppers purchased a few times in six months. 34.9% of respondents purchased products online occasionally it means few times in a year.

*Table I: Online Shopper's purchase frequency*

<b>Frequency</b>	<b>No. of Respondents</b>	<b>Percentage of Respondents</b>
<i>Few times a week</i>	26	5.9
<i>Few times a month</i>	92	21.0
<i>Once a month</i>	106	24.1
<i>Few times in six month</i>	62	14.1
<i>Occasionally</i>	153	34.9
<b>Total</b>	439	100.0

Source: Primary Data

Thus, from the table-I, it can be concluded that most of the online shoppers either do online shopping occasionally on the festival seasons or do once in a month and few times in a month. Respondents are not very frequent online shoppers as their frequency of online shopping in few times a week was not very popular (5.9%) but overall frequency of online shopping in the whole one month is high i.e. 51 percent of respondents either do online shopping monthly or few times in a month. It means that majority of Indian online shoppers purchased online products once in a month or few times in a month.

### 5.3 Demographic Differences

The demographic difference of age, education level and profession in purchase frequency of online shoppers has been identified with the help of cross-tabulation and chi-square tests. One of the assumptions for the Chi-square ( $\chi^2$ ) test is that every cell must contain expected frequency greater than 5. If this condition is not met then we apply Fisher's exact test.

In first step of analysis, the significant difference between the frequency of online shopping and the age of respondents was explored. Fisher's exact test is applied in place of the chi-square test as the expected count value of the two cells was less than 5 and the minimum expected count is 2.61 so, the chi-square test is not applicable.

*Table II: Results of Chi-Square Test across Age of Respondents*

	Value	Exact Sig. (2-sided)	Approx. Sig
<i>Fishers Exact Value</i>	0.000	0.000*	
<i>Cramer's V</i>	0.116		0.101
<i>N of Valid Cases</i>	439		

Source: Primary Data, \*Significant at 5%

Table-II shows the result of Fisher's exact test which indicated that the null hypothesis was rejected as Fisher's exact value is equal to 0.000 and P value is less than 0.05 ( $p < 0.05$ ). It reveals that there was significant association between the frequency of online shopping and age of respondents. The table also shows the effect size of variable age on the frequency of online shopping. Effect size describes the amount of the total variance in the dependent variable that is explained or predicted by the independent variable. The value of Cramer's V is calculated for effect size analysis. The Cramer's V value came out to be 0.116 which is less than 0.5, it showed that the strength of association is weak between the frequency of online shopping and the age of respondents. In other words, the low degree of association existed between these two variables. Hence, results shows that association exist between age of online shoppers and frequency of online purchase. But to know which age group was more influential and to analyze detailed association between frequency of online purchase and age of respondents cross tabulation was done.

Table-III shows the result of cross-tabulation which represents that most of the online shoppers are younger in age (18-35 years) and were more frequent online shopper than old age group respondents (i.e. above 36 years). 76.9 percent of young internet shoppers (18-35 years) did online shopping few times a week, whereas only 23.1 percent of old age did online shopping few

times a week. Young respondent's frequency of online shopping was higher in almost all categories of frequency (i.e. few times a month 73.9 percent, once a month 84 percent and few times in six months 77.5 percent). Further, the table also represents that respondents of all age group excluding 25-30 years were more like to buy products occasionally (once in a year) through online shopping (18-24; 42.5 percent, 31-35; 28.4 percent, 36-40; 41 percent, above 40; 43.2 percent). It means that occasionally all age group of respondents buy more online products. But the frequency of online shopping is more in young age group respondents than old age group respondents. In other words, young respondents are more frequent online shopper in comparison to old age respondents.

**Table III: Online Shoppers Purchase Frequency across Age**

Frequency of Online Shopping		Age of Respondents					Total
		18-24	25-30	31-35	36-40	Above 40	
<i>Few times a week</i>	Frequency	1	8	11	4	2	26
	Row%	3.8%	30.8%	42.3%	15.4%	7.7%	100.0%
	Column%	0.9%	6.3%	10.8%	6.6%	4.5%	5.9%
<i>Few times a month</i>	Frequency	23	24	21	14	10	92
	Row%	25.0%	26.1%	22.8%	15.2%	10.9%	100.0%
	Column %	21.7%	19.0%	20.6%	23.0%	22.7%	21.0%
<i>Once a month</i>	Frequency	23	39	27	12	5	106
	Row%	21.7%	36.8%	25.5%	11.3%	4.7%	100.0%
	Column %	21.7%	31.0%	26.5%	19.7%	11.4%	24.1%
<i>Few times in six month</i>	Frequency	14	20	14	6	8	62
	Row%	22.6%	32.3%	22.6%	9.7%	12.9%	100.0%
	Column %	13.2%	15.9%	13.7%	9.8%	18.2%	14.1%
<i>Occasionally</i>	Frequency	45	35	29	25	19	153
	Row%	29.4%	22.9%	19.0%	16.3%	12.4%	100.0%
	Column%	42.5%	27.8%	28.4%	41.0%	43.2%	34.9%
<b>Total</b>	Frequency	106	126	102	61	44	439
	Row%	24.1%	28.7%	23.2%	13.9%	10.0%	100.0%
	Column%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Primary Data

Table-IV represents the association of frequency of online purchase across education level and profession of the respondents. The null hypothesis was accepted for demographic variable educational level,  $X^2 = 10.845$ ,  $p \geq 0.05$ . It indicated that there is no significant association existed between frequency of online purchase and education level of respondents. Similarly, the null hypothesis for demographic variable profession was also accepted,  $X^2 = 15.670$ ,  $p \geq 0.05$  showing that no significant association existed between two variables i.e. the frequency of online purchase and the profession of respondents.

*Table IV: Results of Chi-Square Test across Education Level and Profession*

Pearson Chi-Square	Education Level	Profession
<i>Value</i>	10.845	15.670
<i>Asymp. Sig.(2-sided)</i>	0.542	0.207
<i>N of Valid Cases</i>	439	439

Source: Primary Data, \*Significant at 5%

So, it can be concluded that online purchase frequency of consumers was not varying with education level and profession as there was no association found between them. But it found varying in case of age of the respondents. In other words there was a significant association existed between online purchase frequency and age of respondents.

*Exhibit I: Summary of Results and Hypothesis for Online Purchase Frequency of Consumers*

Hypothesis	Statement	Accepted/ Rejected
<b>H<sub>01</sub></b>	<i>There is no significant association between online purchase frequency and age of respondents</i>	Rejected
<b>H<sub>02</sub></b>	<i>There is no significant association between online purchase frequency and education level of respondents</i>	Accepted
<b>H<sub>03</sub></b>	<i>There is no significant association between online purchase frequency and profession of respondents</i>	Accepted

## 6. Conclusion and implications

Large numbers of online retailers are jumping into the online market and trying to grab the market share and consumers, hence, every internet retailer trying to figure out the buying behaviour of online shoppers. Consequently, marketers need to recognise the online shoppers purchase pattern and their frequency of online purchase and impact of demographics on purchase behaviour. Therefore, this paper explored the online consumers purchase frequency and demographics difference existed in frequency of their online shopping. The results revealed that most of the online shoppers either do online shopping occasionally on the festival seasons or once in a month as well as few times in a month. They visited online sites occasionally for special offers, exclusive deals and discount on the festival season to reap the advantage of the special discount. Respondents are not very frequent online shoppers as their frequency of online shopping in few times a week is not very popular (5.9%) but overall frequency of online shopping in the whole one month is high i.e. 51 percent of respondents either do online shopping monthly or few times in a month. It means that Indian online shoppers are majorly purchase

online products once or a few times in every month. The results also indicated that significant association existed between frequency of online purchase and age of respondents. Consumer's frequency of online purchase was found varying significantly across age. Young (76.9 percent) respondents of age group 18-35 years were more frequent online shopper than rest of consumers. Shoppers of all age group excluding 25-30 years were more like to purchase online products occasionally (once in a year). It means that occasionally all age group of respondents buy more online products. But the frequency of online buying is more in young age group shoppers than old age group shoppers. In other words, young consumers were more frequent online shopper in comparison to old age consumers. Results also indicated that no association existed between online purchase frequency and education level of shoppers as well as profession of shoppers. In other words consumer's frequency of online purchase was not varying across education level and profession of consumers. The findings of the study will help out the Indian online retailer's and marketers to recognize the consumer's online behaviour and to allocate their resources and to develop better strategies to attract more and more customers.

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