

The Empirical analysis of Association between Electronic Gadgets used and Frequency of Online Shopping

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Abstract - Today, in the digital world, internet plays a major role in lives of people as it has changed the way people live their life. In the past few years, there is a huge change in the usage of internet for day to day activities of people. The growth of internet has provided unlimited opportunities and possibilities for marketers and consumers. Various businesses use internet for different purposes according to their requirements. Benefit appears to be equal on both customer side and the marketers' side. As marketers' can use this medium for providing instant information to their customers about their product or services or for online selling etc., where as consumers can purchase all kinds of goods online and get it delivered at their door steps, internet also enables online transactions for such activities. To do the same, customers use various electronic gadgets like laptop, smart phones, desktop etc. This study concentrates on finding the association between the gadgets and the frequency of shopping online. The study uses the chi square test to see association between the gadget used and frequency of shopping online. The results showed significant association between the two.

Keywords — Desktop, frequency of online shopping, Gadgets, laptops, online shopping, Smart phones

I. INTRODUCTION

Rapid expansion of e-commerce has enabled marketers and retailers to go online to attract their customers more towards their brand as e-commerce makes it convenient to the customers to choose from latest collections with large number of options, ease of purchase and also saving their time. Marketers find it a good chance to reach to their potential customers. E-commerce has gained its popularity all over the world. e-commerce is increasing at the rate of 19% per year, which is highest in Europe 34% followed by US and Asia with 29% and 27% respectively [7]. M-Commerce is another kind of e-commerce where people use wireless net to do online transactions. M-commerce is becoming ubiquitous because of increased use of the mobile phones. At present, though India is not fully grown in e-commerce, it is leading in the growth of internet connections and mobile phone devices [10] [8].

There are 27 million smart phone users only in urban India which mostly includes users from the age group of 18 to 24 years and nearly one out of five have smart phone in urban India [15]. According to another report India has the 3rd largest smart phone base after China and US and there are 117 million smart phone users out of which approximately 8 million people use these smart phones for e banking, online shopping and travelling [14]. These new methods are attracting consumers to try out new ways to do shopping by

using various devices. In India, the retail market till 2010 was primarily occupied by traditional stores which were handling approximately 93 % of the total retail market. E-retailing is still a small part; i.e., 0.1 % of overall retail in India but it is estimated to grow at a rapid pace to reach 7-8 percent of the total Indian retail market by 2020 [2]. This report further states that e-retailing in India has huge potential to grow and has estimated its growth to \$76 billion by 2021 in value terms [2].

II. LITERATURE REVIEW

Internet is believed to change the way people live their life as everybody wants to go digital. For example, the customers wish to go digital for their regular shopping as they find online shopping more convenient and are shifting towards it from the traditional way of shopping [9]. Customers use internet not only for shopping but also for other day to day activities like online banking, in education for better learning. Marketers and the companies are also using this medium to reach to their customers much faster and to make it more convenient to their customers [1]. Initially it was used only for selling the products by companies, by banks for online transactions and by educational institute for admission and other activities [4]. But now the marketers have realized that this medium can be proved to be a very strong and successful medium for other activities and cannot only be restricted to for selling

but also for marketing and promoting their products to increase their customer engagement therefore marketers from various industries have started using this medium for promoting their business.

Companies which are selling their products or services through traditional channels will be affected by the Internet as a medium, whether they choose it or not. Following the increasing usage trend of internet, many offline retailers have started selling their products online, too [12]. As the trends shows, more people are showing interest and getting inclined to buy products, resulting in the adoption of this medium at faster rate than any other medium; hence choice of media is becoming a major concern for the retail companies [13] [6].

Before choosing the media, it is important for the retailers to know whether use of gadget play any role in frequency of shopping online by the customers as it will help retailers to design further strategies for promoting and their products through these media like mobile apps etc. [11]. Though considerable researches have been done on the online shopping behavior of customers, but little is known and little evidence is available for association among the gadget used and the frequency of shopping online. Therefore, this study attempted for the major objective to find empirical evidence of association between the gadget used and the frequency of shopping online.

III. RESEARCH DESIGN

As this survey is based on the consumer behavior who uses gadgets like smart phones, lap tops or tablets for their routine activities like playing online games, online shopping, online banking or any other online activities. This study considers all the errors and aims to collect the sample by various different means like face to face interview and mail surveys and various other online Medias. The primary data for this research is obtained through face to face interview and the use of an e-mail survey.

The area selected for study is Bangalore, with sample size of 400 which was selected with the judgmental method of sampling. Email invitations were distributed and the participants were asked to volunteer to complete the web-based questionnaire. The survey questionnaire is developed by the various items which have been derived from the various literatures on adoption of different information technology.

The data was checked for any outliers with box plot method which revealed 33 cases as outliers. The final number of the responses considered for the data analysis was 367. Data was checked for the normality. Skewness of all the items of the data is within the acceptable limits of -1 to +1. Kurtosis value for most of the items lies between -1 to +1. The data is normally distributed and nearly symmetrical. The different validities like content validity and internal validity

have been confirmed. Cross tabulation and chi square test of independency is used to find the association between the frequency for shopping online and the gadgets used for shopping online.

IV. DATA ANALYSIS

A. Descriptive analysis

Data is analyzed for both descriptive as well as inferential statistics.

TABLE 1 DESCRIPTIVE FOR ONLINE SHOPPING

| Items | Scale | Frequency (N) Total = 367 | Percentage (%) |
|---|--------------------------|------------------------------|-------------------|
| Do you shop online? | No | 48 | 13.1 |
| | Yes | 319 | 86.9 |
| | | Frequency (N) Total = 319 | |
| Gadgets used for shopping online (Multiple options) | Laptop | 242 | 75.9 |
| | Smart phone | 164 | 51.4 |
| | Desktop | 69 | 21.6 |
| | Tablet | 48 | 15 |
| | Sometimes | 121 | 37.9 |
| Frequency of shopping online | Once/6 month | 38 | 11.9 |
| | Once/2 month | 73 | 22.9 |
| | Once/ month | 57 | 17.9 |
| | > twice/month | 30 | 9.4 |
| Gadgets | | 119 | 37.3 |
| Products buying online (Multiple choice) | Persona wear, care & use | 244 | 76.5 |
| | FMCG | 84 | 26.3 |
| | Reading Material | 62 | 19.4 |
| | Health care | 41 | 12.9 |

Source: Primary data

Tables 1 show that out of 367 respondents, 319 respondents (86.9%) shop online. Different gadgets used for shopping online are also covered by giving the choice of multiple options selection and found that most of the respondents do online shopping by using laptop (75.9%) and smart phones (51.4%) only few people use desktop (21.6%) and tablets (15%). 37.9% respondents said that sometimes they shop online whereas 22.9% respondents are found to shop bimonthly and 17.9% respondents said that they shop online monthly. 9.4% respondents are found to shop online for most of the time for their daily need i.e. >twice a month. 76.5% of the respondents are found to shop online for personal wear, care and use and 37.3% respondents are found to shop online for gadgets. 26.3% respondents also go for online purchasing for FMCG products. Only few respondents are found to shop for reading material (19.4%) and health care (12.9%) products.

B. Testing Association between Frequency of Shopping Online and Gadgets Used

This section explains the association between the frequency for shopping online and the gadgets used for shopping online with the help of cross tabulation and chi square test of independency.

| Frequency of shopping online | | Laptop | Desk top | Smart phone | Tablet |
|------------------------------|------------------|--------|----------|-------------|--------|
| Sometimes | Count | 82 | 29 | 52 | 16 |
| | Expected Count | 91.8 | 26.2 | 62.2 | 18.2 |
| | % with in gadget | 33.9% | 42.0% | 31.7% | 33.3% |
| | % of total | 25.7% | 9.1% | 16.3% | 5.0% |
| | Count | 33 | 14 | 22 | 8 |
| once/6 months | Expected Count | 28.8 | 8.2 | 19.5 | 5.7 |
| | % with in gadget | 13.6% | 20.3% | 13.4% | 16.7% |
| | % of total | 10.3% | 4.4% | 6.9% | 2.5% |
| | Count | 65 | 12 | 34 | 11 |
| | Expected Count | 55.4 | 15.8 | 37.5 | 11 |
| once/2 months | % with in gadget | 26.9% | 17.4% | 20.7% | 22.9% |
| | % of total | 20.4% | 3.8% | 10.7% | 3.4% |
| | Count | 40 | 5 | 33 | 5 |
| | Expected Count | 43.2 | 12.3 | 29.3 | 8.6 |
| | % with in gadget | 16.5% | 7.2% | 20.1% | 10.4% |
| once/month | % of total | 12.5% | 1.6% | 10.3% | 1.6% |
| | Count | 22 | 9 | 23 | 8 |
| | Expected Count | 22.8 | 6.5 | 15.4 | 4.5 |
| | % with in gadget | 9.1% | 13.0% | 14.0% | 16.7% |
| | % of total | 6.9% | 2.8% | 7.2% | 2.5% |
| >twice/month | Count | 242 | 69 | 164 | 48 |
| | % of Total | 75.90% | 21.60% | 51.40% | 15% |

Source: Primary data

Table 2 shows the results of the cross tabulation of gadgets with the frequency of shopping online. Table 2 shows that there is difference in the observed count and the expected count of the respondents who use different gadgets, this indicates that there is an association between the gadgets used and the frequency of the shopping online. From the table it is clear that 33.9% of the laptop users (25.7% of the total online shoppers) found to go for online shopping sometimes and whereas 26.9% of laptop users (20.4% of the total online shoppers) found to go for online shopping bimonthly. 9.1% of laptop users are found (6.9% of the total online shoppers) to shop online frequently i.e. >twice/month. Similarly, 42% of the desktop users (9.1% of total online shopper) are found to shop online sometimes and it is found that the frequency of shopping online with the use of desktop is less in comparison to the other gadgets used i.e. Only 7.2% of desktop users (1.6% of total online shoppers) are found to shop only monthly. In case of smart phone users 31.7% of the smartphone users (16% of the total online shoppers) are found to shop online sometimes, 20.7% smart phone users (10.7% of total online shopper)

are to shop monthly and 14% smart users (7.2% of total online shopper) are found to shop online frequently i.e. >twice per month. It is seen that the frequency of shopping online is more in case of smart phone users. Similar to desktop less number of respondents is found to shop online with the use of tablet. 16.7% of the tablet users (2.5% of total online shopper) are found to shop frequently. Results from the cross tabulation indicates that the frequency of shopping online is more in laptop users followed by the smart phone users.

C. Chi Square Test of Independence

Now from the table 2 we have ensured that there is difference between the expected numbers and the observed numbers but cross tabulation does not assure that whether the difference in the observed values and the expected values are significant enough to behave as inter dependents.

Table 3 Chi Square Test of Independence

| | | Pearson's chi square | |
|-------------|-----------------------|----------------------|---------------------|
| | | Value | |
| Laptop | Df | 4 | 14.866 ^a |
| | Asymp. Sig.(2 tailed) | | 0.005 |
| | Value | | 13.537 ^a |
| Desktop | Df | 4 | 0.009 |
| | Asymp. Sig.(2 tailed) | | 0.009 |
| | Value | | 13.389 ^a |
| Smart Phone | Df | 4 | 0.01 |
| | Asymp. Sig.(2 tailed) | | 0.01 |
| | Value | | 6.312 ^a |
| Tablet | Df | 4 | 0.177 |
| | Asymp. Sig.(2 tailed) | | 0.177 |
| | Value | | |

Table 3 shows the Pearson chi square value for laptop users is 14.866 with degree of freedom 4 and the p values is .005 which is less than 0.05, similarly the p value desktop is 0.009, For smart phone P is 0.01 and for tablet 0.177. It is clear that p values for all the gadgets are less than the acceptable significance level of 0.05 except for the tablet.

V. MANAGERIAL IMPLICATIONS

This study is important for the managers as the result of this study will help them to understand the behavior of the consumers towards online shopping through various gadgets and therefore the managers and design suitable strategies like designing suitable mob apps, other digital marketing and promotion strategies through various media like SEO, advertisement, deciding various payment modes direct or through mobile apps or QR codes etc. In addition to this, As the results have shown that use of gadget play an important role in frequency of shopping online therefore it is highly recommended for the game designers that in addition to the compatible apps they can also design it in such a way to give consumers the actual store experience with the app

which has got the design of actual store layout to enhance their convenience.

VI. CONCLUSION

The retail industry is a very vibrant industry and has been changed from traditional ways of selling to the online selling. The e-retailers have employed a wide array of technologies for enhancing the efficiency and effectiveness and hence improving customer engagement and profits. There is huge scope of e-retailing and the e-retailers have to move forward with a sense of urgency and purpose. Some prerequisites of competing global players are best practices, employing rapidly changing technologies, innovations and efficient processes. The e-retailers are employing different strategies for better conversion rate at their e-commerce like advertising and different digital promotions by using different medias and different technical gadgets. As the Indian consumer is shifting from traditional to online shopping and for the same different gadgets are used, therefore, this study mainly focused on seeing the association between the frequency of shopping online and the type of gadget used. The empirical results revealed that there is significant association between the two and the same can be explained as the consumer are dynamic in behavior i.e. the consumer with the different demography behave different marketing environment. Moreover, Indian consumer are mostly touch and feel kind of customers and they believe in trying out the product. As with improvement and the technology consumers are also changing the way they used to shop but consumer mostly prefer to the convenience and comfortability therefore the use different gadget for shopping online which are conveniently available to them. Therefore, frequency of shopping online varies with the type of gadget used for the same.

VII. LIMITATION AND FUTURE SCOPE

The present study has the limitation of conducting the survey only in Bangalore city which is mostly the urban population the study lacks the data from the rural India where the behavior towards using the gadgets and also online shopping may be different due to the lack of knowledge and the infrastructure.

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