

Exploring the demographic variables in the context of usage of smartphone shopping apps among the consumers.

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Abstract

The penetration of internet in the deep interiors of the nation as well as improving infrastructure facilities in India, provided a huge market for the shopping apps of e-retailers. The study focuses on app usage behavior in the context of demographic factors. The researcher has used structured questionnaire for the study. The data on total mobile apps ever used, hours spent on shopping apps, shopping apps installed, duration since use, number of shopping apps aware as well as installed on the smartphone is collected and evaluated in respect to demographic variable to get better insights. An analysis on various categories of items is carried out giving insights to the frequently purchased items viz. Apparel, home and kitchen, beauty and health, food and beverage, books and DVDs and consumer electronics with respects to various demographic factors. The researchers have used statistical analysis tools like chi square test as well as Posthoc test to get better insights into demographic variables influencing the shopping apps usage patterns among the smartphone users.

This paper attempts to determine an association between the various demographic variables like gender, age, education, occupation and annual family income with the app usage behavior of the smartphone users. The results determine that there is an association between demographic variable gender and duration since use of shopping apps, no. of times apparel items, home & kitchen items and beauty and health items purchased no. of times beauty and health items, food and beverages items and books / DVDs purchased. The researchers have also identified an association between the demographic variable education and duration since use of shopping apps, no. of times accessories items, beauty and health items and consumer electronics purchased. Also there is an association between occupation and hours spent in a week using shopping apps. Lastly, on evaluating annual family income, the researchers have determined an association between demographic variable annual family income and total apps used, duration since use of apps as well as no. of times food and beverages items purchased.

Keywords:

Shopping apps, Smartphone apps, Mobile shopping, m-commerce, e-retailer

I. INTRODUCTION

Internet penetration in India grew from just 4 per cent in 2007 to 52.08 per cent in 2019, registering a CAGR of 24 per cent between 2007 and 2019. The number of internet users in India is expected to increase from 687.62 million as of September 2019 to 829 million by 2021. (IBEF, 2019) As per the latest data provided by TRAI in 2020, India has seen a massive growth of 3.40% in a single quarter and reached to around 743 million internet subscribers from 718.74 million at the end of December 2019. Interestingly, 97% of the internet subscribers are the wireless internet subscribers which are nearly 720.7 million while merely 22.4 million subscribers are for wired internet. Further, A massive number of internet subscribers of about 92.5 per cent of overall internet subscribers used broadband for internet access -- the internet subscriber base comprised 687.4 million broadband users and 55.7 million narrowband subscribers. (TRAI, 2020) According to eMarketer, smartphone users want access to mobile apps in addition to mobile web and desktop. 85% of the time spent in browsing products is through in-app browse. (eMarketer, 2018) “A mobile app is a computer program designed to run on smartphones, tablet computers and other mobile devices” (Rosidah Musa et al., 2016). An app is basically a software programme compatible to the smartphone device. Further, Mobile shopping can be defined as “the activities related to consumers’ shopping processes on mobile device, implemented via a wireless telecommunication network.” (L. Huang et al. 2016) With the growth of e-commerce and nearly 235mn people using the internet via a smartphone, online commerce in India is rapidly moving towards ‘app-commerce’(P. Shukla and P. Nigam,2018).

According to Goodfirm Research survey on shoppers and app makers, 50% of the internet users make online purchases today using ecommerce web and mobile apps. Users favor apps more due to the flexibility offered in surfing, time saving and discounts. Apps also give a better experience by having high definition images that can be viewed 360 degrees and past positive experience from the app. (GoodFirmsResearch, 2020) According to Visual Objects survey, Consumers are likely to use shopping apps at home for 2-5 times per week. The number of shopping apps on smartphones has doubled which is 4 according to Synchrony. 70% users have at least one shopping app on their smartphones. (Visual Objects, 2019)

Technological advancements in the mobile segment will be the most important driver for retailers and marketers with an estimate of 75% of people owning a connected mobile device by 2030. Globally the middle class spending are estimated to triple by the year 2030 with aging population, working women, urbanization, rich becoming richer, millennial taking over and shrinking size of households. By 2025, new personal consumption patterns will emerge with the factors like increase in convenience, focus on health and welfare, demand for personalization and customization and focus on shopping experience. (Pricewaterhouse Coopers, 2015) According to Statista, 72.9 % of global retail e-commerce sales is expected to be generated through m-commerce shopping apps. Nations like India and Brazil which are the e-commerce markets in mobile-first economies are the drivers of m-commerce hike. It is

expected that m-commerce will become main channel for online shopping since as much as 87% of shoppers engage in online product search before buying.

According to Appflyer report in 2016, Asian users spend higher than other regions of the world. These are the mobile first users, with monthly in-app spend of USD 0.70 and average purchase per user, per app are USD 10.65 which is the highest of all the regions. According to AppAnnie report, there is a rise in the time spent on shopping apps worldwide. The increase in time spent on shopping apps is driven by both growing user bases and increased engagement. Global Shopping app downloads grew 20% from 2018 to 2019 to over 5.4 billion, indicating a strong demand for shopping apps. The highest time spent on shopping apps in 2019 was in Indonesia, followed by India and Brazil. (App Annie 2020)

II. REVIEW OF LITERATURE

Smartphones have rapidly changed the consumer shopping experiences as consumers can conveniently buy 27 by 7 anything from anywhere and anytime with least efforts. The retailers are exploring new opportunities to expand their sales, increase revenues and satisfy customers using new online channels.

To have a successful m-commerce, the app design should have high level of interaction and focus on usability such as page navigation, search function, payment process, operation interaction etc. Majority of the customers examine the entertainment aspect of the app to judge its quality. App design has an impact on overall consumer's purchase experience. Further, an interesting shopping experience will lead to impulse buying. Z. C. Liu, Z. W. Lu (2107) The users who have shopping apps installed are more experienced in online shopping than those without shopping apps. The non-shoppers usually download non-shopping apps and browse them less frequently, and the shoppers who are more experienced on online shopping visit shopping apps more frequently, have a greater number of shopping apps, spend a large amount of time on it and purchase more frequently using the mobile apps. M. Kim et al. (2017)

Encouraging customers to develop the habit of M-shopping is important for retailers. They normally shop the items they had purchased earlier from the same manufacturers with whom they have prior experience. This repeated M-shopping behavior leads to an increase in order size and order rate over a period of time. Retailers need to communicate and deliver value to the customers to repeatedly M-shop. If customers continue to find value in M-shopping and increase their M-shopping frequency, it will lead to rise in their spending and likelihood to repurchase. Wang, R.H., Malthouse, E.C., Krishnamurthi, L. (2015) To enhance the m-shopping site, in order to satisfy the customers' need and preferences, marketers need to consider the three essential qualities viz. assurance, merchandise and enabling functions. J.-H. Wu, Y.-M. Wang (2006)

Men are more prone to trying and using new information technology as compared to women. Women consider shopping as a more social activity in comparison to men, thus women are found to be less involved in e-commerce activity. Further, men has higher level of trust in internet related activities, like visual and animations in the web design and are selective in information processing. Women seek physical evaluation of products and are comprehensive in information processing. A. Shaouf and O. Altaqqi (2018)

Online retailers should set up a user friendly website or an online shopping system which can help women consumers in India to overcome hurdles and barriers of accepting online shopping easily. P.D. Amin and B. Amin (2010) Round the clock availability is desired by males as well as females who are working. While convenience, time saving and comparison across different sellers are preferred by male; social interaction, website user friendliness is preferred by majority of the females. Additionally, that the age of e-shoppers has no significant influence on their behavior once the customers are comfortable using the ecommerce websites. S.K. Suman, P. Srivastava and S. Vadera (2019) Contrastingly, marketing strategy of the company, system, product diversity and browsing speed are the four essential qualities teenagers look for while buying products online. A.K. Sharma et al. (2016)

III RESEARCH METHODOLOGY

A descriptive research is used where the researcher seeks to measure preferences of people, frequency of shopping, or similar data. Quantitative research was carried out through survey method which quantifies the consumer behavior towards usage of shopping apps, while statistical data interpretation is possible.

So far, researchers have attempted to study online shopping behavior of the consumers in the context of websites. However, not many studies have been carried out in the context of shopping apps usage in the context of examining demographic variables. Thus, the objective of this research study is to examine the demographic factors in respect to apps usage behavior. The aim is to explore consumers' responsiveness towards shopping apps taking into consideration the impact of demographic factors like age, gender, education, occupation and annual family income. Various general and shopping apps usage dimensions are considered like total number of apps installed in the Smartphone, total number of shopping apps installed, the duration of time spent on shopping apps in a week time and usage of various shopping apps available in India.

3.1 Hypothesis

Total six hypotheses are tested in relation to the consumers' responsiveness towards shopping apps taking into consideration the impact of demographic factors like gender, age, education, occupation and annual family income. The hypotheses used in the study are:

1. H₀₁: There is no significant association between Total apps ever used and (a) Gender (b) Age (c) Education (d) Occupation (e) Annual Family Income

2. H₀₂: There is no significant association between Hours spent in a week using Shopping apps and (a) Gender (b) Age (c) Education (d) Occupation (e) Annual Family Income.
3. H₀₃: There is no significant association between Duration of use of shopping apps and (a) Gender (b) Age (c) Education (d) Occupation (e) Annual Family Income
4. H₀₄: There is no significant association between Shopping apps installed and (a) Gender (b) Age (c) Education (d) Occupation (e) Annual Family Income.
5. H₀₅: There is no significant association between number of times items purchased – (a)Apparel, (b) Home & Kitchen, (c) Accessories, (d) Beauty, (e) Food & Beverages, (f) Books, (g) Consumer electronics and all the demographic variables (a) Gender (b) Age (c) Education (d) Occupation (e) Annual Family Income.

3.2 Data Collection and Analysis

Secondary data was collected from various published online as well as offline sources including journals, magazines, online and offline Business newspapers and articles and published reports of eMarketer, Statistica, Whitepaper, AppAnnie etc. The primary data was collected using a structured questionnaire, from major cities of Gujarat viz. Ahmedabad, Rajkot, Surat and Vadodara. Out of the total numbers of 755 responses, a total number of 692 responses were considered for the purpose of data analysis and interpretation. To be a qualified respondent, the buyers who had made purchase using smartphone shopping apps, at least once in the last 6 months are considered for data collection. A non-probability sampling method, convenience sampling technique is used for collecting the data. The collected data was examined using Chi-Square in relation with demographic variables. A post hoc test Bonferroni Correction and Holm – Bonferroni Correction is applied to the variables having significant association to identify the pair of variables having a significant relationship among all the other variables in the category.

IV. RESULTS AND DISCUSSION

4.1 Results derived for Demographic profile of the consumers

The researchers have identified that out of the total 692 responses, the respondents of the study included 61% male and 39% female from Gujarat. There is a ratio of 6:4 among male and female respondents. A total of 45% respondents fall under 25 and below age group, followed by 26 - 30 age groups, which carries 24% of the respondents. As the age group of respondent increases, it becomes difficult to find the respondents who use Smartphone shopping apps. This leads to sinking percentage of respondents to 4% in the older age group of 46 and above. Considering the education as a demographic variable, it is noted that the highest number of respondents are Post-Graduates, which is nearly 46% of the total 692 respondents from Gujarat. It is also determined that, 44% respondents are Salaried. This

implies that working consumers look for convenience as they cannot spare much time in shopping in traditional retail outlets. It is found that 28% of the respondents, fall under the category of annual family income of 5,50,000 and above, who are using Smartphone shopping apps for making their purchase. This implies that the higher income of the respondents has an impact on the respondent's preferences for shopping channel, shopping apps.

4.2 Results derived from app usage behavior of the users

The study determines that nearly 56% respondents use 1 – 20 Smartphone apps on their mobile devices. It denotes that majority of the respondents are using a small amount of apps for their day to day usage. It is found that nearly 50% of the respondents use shopping apps for less than an hour in a week, which is followed by 34% respondents using shopping apps for 1-3 hours in a week. This indicates a low penetration of shopping apps, leaving a room for marketers and online retailers to explore and expand the usage of shopping apps usage. It is determined that 71% respondents have installed less than four shopping apps on their Smartphone devices.

4.3 Results derived from Hypothesis testing

The researcher studied the impact of demographic factors like gender, age, education, occupation and annual family income on various shopping apps usage parameters using Chi-Square. The hypothesis H_{01e} is rejected. The Chi Square test conducted at 95% confidence level indicated that there is a statistical significant association between Total apps ever used by the respondents and annual family income ($p = 0.009$) of the respondents. Further, we reject the hypothesis H_{03a} , H_{03c} and H_{03e} . Thus, concluding there is a significant association between duration since use of shopping apps and gender ($p = 0.017$), education ($p = 0.007$) and annual family income ($p = 0.000$) of the respondents. The study also determined that there is a significant association between the total hours spent using shopping apps in a week and occupation ($p = 0.028$) of the respondents, rejecting H_{02d} . Lastly, we reject the hypothesis H_{04e} . It is found that there is a significant association between Shopping apps installed by the respondents and Annual Family Income ($p = 0.034$) of the respondents.

The hypothesis H_{06aa} and H_{06ba} are rejected thus, it can be said that there is a significant association between gender and number of times Apparel ($p = 0.003$) and Home & Kitchen items ($p = 0.004$) purchased. Next, there is a significant association between demographic variable age and Beauty and Health items ($p = 0.010$), Food and Beverages ($p = 0.034$) and Books / DVDs ($p = 0.002$) purchased. Thus the hypothesis H_{06db} , H_{06eb} and H_{06fb} are rejected. Further, H_{06cc} , H_{06dc} and H_{06gc} are also rejected. It is found that there is a significant association between demographic variable education and Accessories, ($p = 0.005$) Beauty and Health items ($p = 0.000$), and Consumer electronics ($p = 0.010$) purchased.

4.4 Results derived from Posthoc Analysis

A Posthoc analysis was conducted for determining the pair of categories as significant contributor within the variables. It is identified that there is a significant association between More than 6 hours spent using shopping apps by the respondents and Professional as occupation. It is also determined that there is a significant association between 1-3 hours spent using shopping apps by the respondents and Self Employed as an occupation. There is a significant association is identified between over 3 years of duration since use of shopping apps by the respondents and under graduates and doctorates. Evaluating the demographic factor of annual family income, it is identified that there is a significant association between 1-20 total apps ever used by the respondents and 1,50,001 to 2,50,000 and 50,000 to 4,50,000 Annual Family Income of the respondents. Further, there is a significant association between duration since use of shopping apps and annual family income of the respondents. It is identified that there is a significant association between 6 months to 1 year duration since use of shopping apps and 150,000 and below, 1,50,001 to 2,50,000, 3,50,001 to 4,50,000 and 5,50,001 and above annual family income; 1 – 2 years and 2,50,000 to 3,50,000 and 5,50,001 and above annual family income; and 2-3 years and 5,50,001 and above; and over 3 years and 150,000 and below, and 5,50,001 and above annual family income. Lastly, it is found that there is a significant association between Shopping apps installed by the respondents and annual family income of the respondents. It is identified that there is a significant association between more than 8 shopping apps installed and annual family income of 150000 and below.

Posthoc analysis was also conducted for various categories of the items purchased using shopping apps and demographic variables gender, age, education, occupation and annual family income. It is found that there is a significant association between more than 3 times apparel purchased by the respondents and male as well as female. There is a significant association between 1-3 times Home and Kitchen items purchased by the respondents and male as well as female. There is a significant association between more than 3 times accessories items purchased by the respondents and graduate as well as professional education levels. There is a significant association between 1-3 times Beauty & Health items purchased by the respondents and male as well as female. There is a significant association between more than 3 times Beauty & Health items purchased by the respondents and 36-40 age. There is a significant association between more than 3 times Beauty & Health items purchased by the respondents and Professional education; and 1-3 times Beauty & Health items purchased by the respondents and Post-Graduates. There is a significant association between more than 3 times Food & Beverages items purchased by the respondents and age 25 years and below. There is a significant association between more than 3 times Books / DVDs purchased by the respondents and age 25 years and below as well as 31-35. There is a significant association between more than 3 times consumer electronics purchased by the respondents and under graduates as well as post graduates.

V. CONCLUSION

The emergence of this new era of shopping apps indulges online retailers to adapt to the new level of merchandise according to demographic profile of the consumers to be successful in as an e-retailer.

Professionals spend maximum time on online shopping. Under graduates and doctorates who are sharing a common teach learning platform are keen to adapt a new technology and has started using this mobile shopping apps platform since last three years in Gujarat. Interestingly, users having low income are more prone to installing more number of shopping apps. Probably, this is due to the competitive prices offered on various shopping apps.

Further, it can be concluded that product categories viz. Consumer electronics, Apparel and Accessories, which are frequently, purchased using shopping apps. Gender plays an important role in product categories like Apparel, Home and Kitchen items as well as Beauty and Health items. Age is found to be associated with the product categories like Beauty & Health, Food & Beverages and Books / DVDs items purchased. The age group of 36-40 are the potential target audience for Beauty and Health products, while the age group of '25 years and below' are the potential target audience for Food and Beverages. Similarly, the potential target audiences for Books / DVDs fall in 25 years and below as well as 31-35 years age group. The demographic variable education has a vital role in the product categories like Accessories, Beauty & Health and Consumer Electronics. Graduates and Professionals are found to be the potential customers for Accessories items like purse, bags, wallets, belt, jewelry etc. being more frequent buyers. In fact, professionals are also major consumers of Beauty & Health products; post graduates are more inclined towards purchase of Consumer electronics products like mobile phones, tablets and laptops.

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