CHAPTER 4

DEMOGRAPHIC PROFILE OF CUSTOMERS USING DIGITAL CHANNELS OF COMMUNICATION

Many classification variables were used in the study to better understand the association between digital channels of communication and demographic variables while buying a car. This chapter aims to analyze the association between demographic variables like age, income, education, occupation and gender with digital channels of communication. The chapter also explains the association between place of living and brand of car with digital channels of communication. Moreover, the chapter identifies the distinct customers segments using digital channels of communication while buying a car.

4.1 DETAILS OF CLASSIFICATION VARIABLES

The main variables used in the study included age, education, income, gender, place of living, occupation and brand of the car owned. Given below is the detail of the variables:

a) Age

Data for the study was collected from respondents belonging to various age groups. Table 4.1 shows the age distribution of respondents in the sample. It can be seen from the table that about 36% of the sample was represented by respondents belonging to 18-25 years age group. Respondents belonging to 26-30 years age group made 18% of the sample whereas 31-35 years age group was represented by 15% of respondents. About 10% of sample was represented by respondents belonging to 36-40 years age group. 20% of the sample was represented by the respondents of above 40 years age. It can be said that about 69% of the sample was represented by respondents below the age of 35 years. The sample distribution by age almost congregates with the findings of Census (2011) whereby it stated that 65% people in India are below the age of 35 years. 31% of the sample was represented by respondents above the age of 35 years.
Table 4.1: Age Distribution of Respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Age Categories</th>
<th>Frequency</th>
<th>Percentage in the Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>18-25 years</td>
<td>286</td>
<td>35.7</td>
</tr>
<tr>
<td>2</td>
<td>26-30 years</td>
<td>147</td>
<td>18.4</td>
</tr>
<tr>
<td>3</td>
<td>31-35 years</td>
<td>118</td>
<td>14.7</td>
</tr>
<tr>
<td>4</td>
<td>36-40 years</td>
<td>83</td>
<td>10.4</td>
</tr>
<tr>
<td>5</td>
<td>above 40 years</td>
<td>167</td>
<td>20.8</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>801</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The variable was included in the study as researcher wished to see whether usage of various digital channels of communication was affected by age or not. Did people belonging to a particular age group have preference for particular digital channel or not?

b) Education

Data for the study was collected from respondents with different educational background. Table 4.2 shows the educational background of respondents in the sample. 46% respondents in sample claimed to possess graduate degree whereas 35% respondents said they were post graduate. 16% of the respondents were intermediate (senior secondary) whereas 3% of respondents were found possessing other educational qualifications like Doctoral Degree, Diploma etc.

Table 4.2: Educational Background of Respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Educational Background</th>
<th>Frequency</th>
<th>Percentage in the Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Senior Secondary</td>
<td>129</td>
<td>16.1</td>
</tr>
<tr>
<td>2</td>
<td>Graduate</td>
<td>366</td>
<td>45.7</td>
</tr>
<tr>
<td>3</td>
<td>Post Graduate</td>
<td>282</td>
<td>35.2</td>
</tr>
<tr>
<td>4</td>
<td>Others</td>
<td>24</td>
<td>3.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>801</td>
<td>100.0</td>
</tr>
</tbody>
</table>

This variable was included in the study to unravel the relation if any between the education and usage of digital channels.

c) Occupation

Data for the study was collected from respondents with different occupations. 40% of the sample was represented by respondents in service sector. 30% of the sample was represented by the student respondents whereas business and home-maker represented the 22% and 9% of the sample respectively. Table 4.3 displays the ‘occupation’ of respondents in the sample.
Table 4.3: Occupation of the Respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Occupation</th>
<th>Frequency</th>
<th>Percentage in the Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Student</td>
<td>237</td>
<td>29.6</td>
</tr>
<tr>
<td>2</td>
<td>Service</td>
<td>318</td>
<td>39.7</td>
</tr>
<tr>
<td>3</td>
<td>Business</td>
<td>176</td>
<td>22.0</td>
</tr>
<tr>
<td>4</td>
<td>Home-maker</td>
<td>70</td>
<td>8.7</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>801</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The variable was included in the study to assess whether people belonging to different occupations used different digital channels of communication.

d) Annual Household Income

Data was collected from the respondents belonging to various income groups. Table 4.4 shows the annual household income distribution of respondents in the sample. Annual household income was used as car in India is a family product rather than an individual item. Income categories were specified keeping the prices of cars in India in various segments namely hatchback, compact, sedan and luxury segments. Minimum annual household income category was kept as below 4 lakhs which was represented by about 19% of the sample. Income category of 4 Lakhs and above but below 8 Lakhs was represented by about 42% of the respondents. Income category of 8 Lakhs and above but below 20 Lakhs was represented by 31% of the respondents whereas 20 lakhs and above annual income category was represented by 8% of respondents.

Table 4.4: Annual Household Income of Respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Annual Household Income</th>
<th>Frequency</th>
<th>Percentage in the Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Below 4 Lakhs</td>
<td>150</td>
<td>18.7</td>
</tr>
<tr>
<td>2</td>
<td>4 Lakhs and above but below 8 Lakhs</td>
<td>340</td>
<td>42.4</td>
</tr>
<tr>
<td>3</td>
<td>8 Lakhs and above but below 20 Lakhs</td>
<td>246</td>
<td>30.7</td>
</tr>
<tr>
<td>4</td>
<td>20 Lakhs and above</td>
<td>65</td>
<td>8.1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>801</td>
<td>100.0</td>
</tr>
</tbody>
</table>

This variable was included in the study to assess the relationship if any, between income and use of digital channels communication.

e) Place of Living

Data was collected from urban, sub-urban and rural areas of Delhi to see whether digital marketing is still an urban phenomenon or it has crossed the boundaries of urban space and people use digital channels of communication in rural and sub-urban areas also. Census (2011) was used as frame of reference for defining the urban, sub-urban and rural areas of the study. An urban area as per Census (2011) was defined
as a constitutional place with a municipality, corporation, cantonment board or notified town area committee having the minimum population of 5,000 and at least 75% of male working population engaged in non-agricultural occupations. Such areas are normally associated with density population of at least 400 people per sq. km. (1,000 per sq. mile). An area was considered rural if it was not classified as urban as per the above definition. As per Census (2011), sub-urban area was also known as ‘Census Town’ and represents the settlements with a population over 5,000. Such settlements have lost the characteristics of a village with agriculture as the principal occupation. However, sub-urban settlements have not attained the municipality level so that they might be categorized as census towns.

Table 4.5 displays the place of living in the collected sample. 45% of data was collected from respondents residing in urban area, 28% of data was collected from sub-urban areas and 27% of data was collected from respondents residing in rural areas.

Table 4.5: Place of Living of Respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Place of Living</th>
<th>Frequency</th>
<th>Percentage in the Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Urban</td>
<td>364</td>
<td>45.4</td>
</tr>
<tr>
<td>2</td>
<td>Semi-Urban</td>
<td>220</td>
<td>27.5</td>
</tr>
<tr>
<td>3</td>
<td>Rural</td>
<td>217</td>
<td>27.1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>801</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The variable was included in the study to see the association if any, between the place of living and use of digital channels of communication.

f) Gender of the Respondents

Data for the study was collected both from males and females respondents. Table 4.6 displays the gender of the respondents. Male respondents composed the 64% of the sample whereas 37% of the sample was represented by female respondents.

Table 4.6: Gender of Respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage in the Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>509</td>
<td>63.5</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>292</td>
<td>36.5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>801</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The variable was included in the study to know whether use of digital channels differed significantly with the gender of the people.
g) Brand of Car Owned

Data was collected from various actual and potential car customers. ‘Car’ in the study referred to a road vehicle with four wheels powered by an internal combustion engine and able to carry a small number of people especially meant for personal use. The study didn’t discriminate the vehicle by its category based on engine size, body type, size and length. Table 4.7 displays the distribution of various car brands and potential car customers. There were about 8% of people who at the time of the study didn’t own the vehicle, so they were considered the ‘potential customers’. ‘Maruti Suzuki’ was found leading the car segment with 39% share in the sample followed by ‘Hyundai’ with 21% of the share in the sample. The sample results were in tandem with the market share of car manufacturers in India where Maruti Suzuki is the leader followed by Hyundai.

Table 4.7: Share of Various Car Brand Owners and Potential Customers in Sample

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Brand of Car</th>
<th>Frequency</th>
<th>Percentage in the Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Maruti Suzuki</td>
<td>314</td>
<td>39.2</td>
</tr>
<tr>
<td>2</td>
<td>Hyundai</td>
<td>170</td>
<td>21.2</td>
</tr>
<tr>
<td>3</td>
<td>Tata</td>
<td>31</td>
<td>3.9</td>
</tr>
<tr>
<td>4</td>
<td>Ford</td>
<td>21</td>
<td>2.6</td>
</tr>
<tr>
<td>5</td>
<td>Polo</td>
<td>27</td>
<td>3.4</td>
</tr>
<tr>
<td>6</td>
<td>Toyota</td>
<td>47</td>
<td>5.9</td>
</tr>
<tr>
<td>7</td>
<td>Renault</td>
<td>10</td>
<td>1.2</td>
</tr>
<tr>
<td>8</td>
<td>Chevrolet</td>
<td>11</td>
<td>1.4</td>
</tr>
<tr>
<td>9</td>
<td>Honda</td>
<td>53</td>
<td>6.6</td>
</tr>
<tr>
<td>10</td>
<td>BMW</td>
<td>14</td>
<td>1.7</td>
</tr>
<tr>
<td>11</td>
<td>Audi</td>
<td>9</td>
<td>1.1</td>
</tr>
<tr>
<td>12</td>
<td>Porsche</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td>13</td>
<td>Skoda</td>
<td>11</td>
<td>1.4</td>
</tr>
<tr>
<td>14</td>
<td>Mahindra</td>
<td>14</td>
<td>1.7</td>
</tr>
<tr>
<td>15</td>
<td>HM</td>
<td>3</td>
<td>0.4</td>
</tr>
<tr>
<td>16</td>
<td>Mercedes</td>
<td>3</td>
<td>0.4</td>
</tr>
<tr>
<td>17</td>
<td>Potential Customers</td>
<td>61</td>
<td>7.6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>801</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Different car marketers allocate different budget to the digital platforms. So, this variable was included in the study to see the relationship if any between particular different car brands owners and usage of digital channels.
4.2 DEMOGRAPHIC PROFILE OF CUSTOMERS USING DIGITAL CHANNELS OF COMMUNICATION

The study intended to know the demographic profile of the customers who used digital channels of communication. It was also envisioned to see whether an association existed between a customer belonging to particular demography and use of particular digital channel. Following hypotheses were formulated to study the relationship between demographic profile of the consumer and usage of digital channels of communication.

Ho: There is no relationship between demographic profile of the consumer and type of digital communication channel used while buying a car.

Ha: There is a relationship between demographic profile of the consumer and type of digital communication channel used while buying a car.

Section given below presents the analytical details of proposed association between demographic variables and digital channels while buying a car.

4.2.1 Age and Channels of Communication

Descriptive details of age and communication channels usage revealed that respondents made more use of digital channels of communication in comparison to traditional channels of communication across all age groups (Fig. 4.1).

![Figure 4.1: Age and Channels of Communication](image)

It can be seen from the Fig. 4.1 that about 29% of the respondents who made use of digital channels of communication while buying a car belonged to the 18-25
years age group. It was also observed that 7% of the respondents belonging to 18-25 years age group used traditional channels of communication. 15% of the respondents to 26-30 years age group used digital channels whereas only 4% of the respondents in the same age group used traditional channels of communication. 12% of the respondents belonging to 31-35 years age group used digital channels whereas only 3% of respondents belonging to the same group were found using traditional channel of communication. 8% of the respondents using digital channels were found associated with 36-40 years age group whereas only 3% of respondents in the same age group used traditional channels of communication while buying a car. 12% of the respondents in above 40 years age group used digital channels whereas 9% used traditional channels of communication while buying a car.

Table 4.8 displays the frequency details of the sample resulting from the cross-tabulation of age and channels of communication.

<table>
<thead>
<tr>
<th>Age Categories</th>
<th>Channels of Communication</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional Channels (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>within Channel</td>
<td></td>
</tr>
<tr>
<td>18-25 years</td>
<td>54 (27%)</td>
<td>286</td>
</tr>
<tr>
<td>26-30 years</td>
<td>29 (15%)</td>
<td>147</td>
</tr>
<tr>
<td>31-35 years</td>
<td>21 (11%)</td>
<td>118</td>
</tr>
<tr>
<td>36-40 years</td>
<td>22 (11%)</td>
<td>83</td>
</tr>
<tr>
<td>Above 40 years</td>
<td>72 (36%)</td>
<td>167</td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>801</td>
</tr>
</tbody>
</table>

Table 4.8: Cross Tabulation of Channels and Age

It was observed that respondents belonging to 18-25 years made maximum use (38%) of digital channels while buying a car followed by 26-30 years age group used by 20% of the respondents. Respondents belonging to 36-40 years age groups made least use (10%) of digital channels while buying a car. Respondents belonging to ‘above 40 years’ age group led all the age groups in traditional communication channel category whereby 36% of the respondents made use of traditional communication channels while buying car. The group was followed by 27% respondents belonging to 18-25 years age group category who relied more on traditional channels of communication.

Statistical significance of the descriptive results was checked with the help of non-parametric test. Chi-square was applied as a test of significance at 5% level of significance in order to see the significance of the result as both the variables namely the age and usage of communication channel dealt with categorical data having mutually exclusive categories. Moreover, data was collected from a large sample ensuring the minimum expected cell count of more than five in eighty percent of the cells, which further confirmed the assumptions of chi-square test. Following hypotheses were set for the test:
H$_{01}$: There is no association between age and channel of communication while buying a car.

H$_{a1}$: There is an association between age and channel of communication while buying a car.

**Table 4.9: Chi-Square Statistic for Age and Communication Channels**

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>40.753$^a$</td>
<td>4</td>
<td>.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>37.904</td>
<td>4</td>
<td>.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>29.906</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>Cramer’s V</td>
<td>.226</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>801</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 20.52.

The Chi-square statistic was found ‘significant’ with a statistic value of 40.753 associated with .000 significance level. The significance value of Pearson Chi-Square statistic indicated that two variables were not independent but related. So, it could be concluded that there was an association between the variables namely the age of the respondents and channel of communication while buying a car and respondents across all age groups used digital channels of communication more than the traditional channels of communication. Respondents belonging to 18-25 years age group made maximum use of digital channels of communication while buying a car followed by respondents belonging to 26-30 years age group. Respondents belonging to above 40 years age group made the maximum use of traditional channels of communication while buying a car.

‘Cramer’s V’ was applied to see the strength of association between age and channel of communication. A significant value of .226 (Table 4.9) indicated a ‘low’ association between age and channels of communication. Although, low association was observed between age and channels of communication, still the significance value of .000 suggested that such association was difficult to exist by chance. So, hereby alternate hypothesis (H$_{a1}$) was accepted which stated that association existed between age and channel of communication.

The probable explanation for the observed results could be the greater exposure of the respondents especially the younger ones to the new age digital technologies and perceived ease and comfort of the formers in using it. Today, young customers spend considerable time on digital platforms and are equipped with internet enabled digital devices (Nickson, 2016). This young tech-savvy generation perceives digital communication a more convenient and easy communication alternative to its traditional counterpart (Erickson, 2012). Moreover, they comfortably embrace the technological advances and effortlessly use it for diverse purposes.

As, age, the demographic variable was found having significant association with the channels of communication, the variable was further analyzed for understanding its association with specific digital channel of association, if any.
4.2.1.1 Age and Digital Channels Association

A customer can use different digital marketing channels namely websites (WS), social networking sites (SNS), ‘YouTube’ (YT), phones, smartphones (SP), online communities (OC), digital outdoors (DO), digital television (DTV), e-mails and others. It was intended to see whether an association existed between particular age group and specific digital channel used by the respondents. Following hypotheses were postulated for the test:

H₀₂: There is no association between particular age group and specific digital channel of communication while buying a car.

Hₐ₂: There is an association between particular age group and specific digital channel of communication while buying a car.

The section given below contains the results of 603 rather than 801 respondents who used at least one of the digital channels while buying a car. Both the variables namely the age and usage of digital channels were measured at nominal scale having mutually exclusive categories whereby respondent’s response for each digital channel was recorded either as ‘use’ or ‘no use’. Categorical unpaired data was collected from large sample that also ensured the minimum expected cell count of more than five in eighty percent of the cells. Not a single cell contained the expected frequency count of less than one. Data successfully met all the assumptions of one of the most useful analytical tools, Chi-square. So, Chi-square test was applied as a test of significance in order to see the association between age and specific digital channel of communication. Chi-square was calculated for each digital channel (i.e. Websites, SNS, YouTube, Phone, Smartphone, Online Communities, Digital Outdoor, Digital TV, E-mail and Others) and results have been represented in the form of a summary table 4.10.

<table>
<thead>
<tr>
<th>Age</th>
<th>WS</th>
<th>SNS</th>
<th>YT</th>
<th>Phone</th>
<th>SP</th>
<th>OC</th>
<th>DO</th>
<th>DTV</th>
<th>Email</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25 Years</td>
<td>201</td>
<td>109</td>
<td>82</td>
<td>27</td>
<td>88</td>
<td>45</td>
<td>61</td>
<td>64</td>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td>26-30 Years</td>
<td>100</td>
<td>59</td>
<td>53</td>
<td>27</td>
<td>66</td>
<td>33</td>
<td>40</td>
<td>39</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>31-35 Years</td>
<td>88</td>
<td>33</td>
<td>41</td>
<td>15</td>
<td>40</td>
<td>25</td>
<td>24</td>
<td>20</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>36-40 Years</td>
<td>54</td>
<td>28</td>
<td>25</td>
<td>11</td>
<td>23</td>
<td>24</td>
<td>19</td>
<td>24</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Above 40 Years</td>
<td>84</td>
<td>44</td>
<td>45</td>
<td>30</td>
<td>45</td>
<td>21</td>
<td>34</td>
<td>38</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Total (out of 603)</td>
<td>527</td>
<td>273</td>
<td>246</td>
<td>110</td>
<td>256</td>
<td>148</td>
<td>178</td>
<td>185</td>
<td>64</td>
<td>23</td>
</tr>
<tr>
<td>% of Use</td>
<td>87.4</td>
<td>45.3</td>
<td>40.8</td>
<td>18.2</td>
<td>42.5</td>
<td>24.5</td>
<td>29.5</td>
<td>30.7</td>
<td>10.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Chi-Square Value</td>
<td>2.009</td>
<td>6.346</td>
<td>5.470</td>
<td>20.032</td>
<td>6.906</td>
<td>11.664</td>
<td>5.185</td>
<td>12.006</td>
<td>4.436</td>
<td>8.300</td>
</tr>
<tr>
<td>Significance level</td>
<td>.734</td>
<td>.175</td>
<td>.242</td>
<td>.000</td>
<td>.141</td>
<td>.020</td>
<td>.269</td>
<td>.017</td>
<td>.350</td>
<td>.081</td>
</tr>
<tr>
<td>Cramer’s V</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.184</td>
<td>-</td>
<td>.139</td>
<td>-</td>
<td>.141</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Table 4.10 gives the summarized results for the ‘use’ of each digital channel by the respondents (it doesn’t depict the non-use count for the sake of simplicity and better understanding) whereby it can be seen that although websites, social networking sites, YouTube, and smartphones were the most used digital channels by the respondents while buying a car, but they were used indiscriminately across all age groups. So, no association was observed between these channels and particular age groups as Chi-square statistic was found insignificant. Emails and other channels of communication were also found insignificant in explaining their association with particular age group.

However, it can be seen from the table 4.10 that digital channels like phones (Chi-square value of 20.032, .000 sig.), online communities (Chi-square value of 11.664, .020 sig.) and digital TV (Chi-square value of 12.006, .017 sig.) found an association with particular age groups. It can also be observed from the table that Phone was used the most by the respondents above 40 years age group and least used by the respondents belonging to 36-40 years age group. The Cramer’s statistic value was found as .184 which meant that low association or correlation existed between age and use of mobile phone as a digital channel while buying a car. The findings reveal important insights about consumer behaviour whereby it can be interpreted that respondents above 40 years of age believe more in mobile phone which could be due to its simple and less complex nature of working. Marketers must understand that although there is huge enthusiasm surrounding digital marketing, still an important customer segment (above 40 years of age) feels more comfortable using mobile phone (feature phone) while buying a car.

Online communities were used the most by the respondents belonging to 18-25 years age group and least used by respondents belonging to above 40 years age group while buying a car. The Cramer’s V statistic value was found as .139 which meant that low association or correlation existed between age and use of online communities as a digital channel while buying a car. Similarly, digital TV was used the most by the respondents falling in 18-25 years age group and least used by 31 to 35 years age group respondents. The Cramer’s statistic value was found as .141 which meant that low association or correlation existed between age and use of digital TV as a digital channel while buying a car. Although, low association was observed between specific digital channels of communication and particular age group, still the significance value of .000 suggested that such association was difficult to exist by chance. So, hereby alternate hypothesis (Ha2) was accepted which stated that association existed between particular age group and specific channel of digital communication.

4.2.2 Education and Channels of Communication

This can be seen from the Fig. 4.2 that across all educational categories of respondents, digital channels of communication outnumbered the use of traditional channels of communication while buying a car.
It can be observed from the Fig. 4.2 that 34\% of the graduate respondents used digital channels of communication whereas only 12\% of the graduate respondents used traditional channels of communication. 27\% of the post graduate respondents used digital channels of communication whereas only 8\% of the post-graduate respondents used traditional channels of communication while buying a car. 12\% of respondents possessing senior-secondary education were found using digital channels of communication whereas only 4\% of the respondents used traditional channel of communication. It was also observed that about 2\% of the respondents belonging to ‘others’ educational background used digital channels of communication whereas only 1\% of the respondents belonging to others occupational category used traditional channels of communication.

Table 4.11 displays the frequency details of the sample resulting from the cross-tabulation of occupation and channels of communication.

**Table 4.11: Cross Tabulation of Channels and Education**

<table>
<thead>
<tr>
<th>Educational Background</th>
<th>Channels of Communication</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional Channels (% within Channel)</td>
<td>Digital Channels (% within Channel)</td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>33 (17%)</td>
<td>96 (16%)</td>
</tr>
<tr>
<td>Graduate</td>
<td>91 (46%)</td>
<td>275 (46%)</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>65 (33%)</td>
<td>217 (36%)</td>
</tr>
<tr>
<td>Others</td>
<td>9 (4%)</td>
<td>15 (2%)</td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>603</td>
</tr>
</tbody>
</table>
Table 4.11 depicts that 46% of the respondents belonging to graduate category made maximum use of digital channels while buying a car followed by 36% of post graduate respondents. Respondents belonging to others category made the least use of digital channels while buying a car. In the traditional channels category, 46% of graduate respondents followed by 33% post graduate respondents led the educational category in making use of traditional channel of communication while buying a car.

Both the variables namely the educational background and usage of communication channels were measured at nominal scale having mutually exclusive categories. So, Chi-square was applied as a test of significance at 5% level of significance in order to see the significance of the result (Table 4.12). Following hypotheses were set for the test:

H₀₃: There is no association between education and channel of communication while buying a car.

Hₐ₃: There is an association between education and channel of communication while buying a car.

| Table 4.12: Chi-Square Statistic for Education and Communication Channels |
|-----------------------------|---------|-----|----------------|
|                             | Value   | df  | Asymp. Sig. (2-sided) |
| Pearson Chi-Square          | 2.585   | 3   | .460            |
| Likelihood Ratio            | 2.404   | 3   | .493            |
| Linear-by-Linear Association| .001    | 1   | .973            |
| N of Valid Cases            | 801     |     |                 |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.93.

The Chi-square test statistic was found insignificant with a statistic value of 2.585 associated with .460 significance level (Table 4.12). The insignificant value of Pearson Chi-Square statistic indicated that two variables were independent and not related to each other. So, null hypothesis (H₀₃) could not be rejected and it was concluded that education and channel of communication had no association.

The probable explanation for the observed results is two folds. First explanation deals with the sample composition wherein there was no representation of the pure illiterate group as respondents without a formal education were not included in the study. The inclusion of pure illiterate group could have made a difference in the results of the study. The second explanation for the observed results deals with the ‘user friendly’ and not so complex nature of the digital channels which also accounts for the lesser contribution of formal education towards using these contemporary channels. Usage of digital channels doesn’t require the possession of formal education; rather it requires the possession of basic knowledge and ability to use digital medium also known as ‘Digital Literacy’ as per National Digital Literacy Mission of Government of
This basic knowledge and ability is not difficult to acquire with lower levels of formal education. Moreover, capability of digital channels to offer digital content in regional languages eliminates the language barrier, a major hindrance limiting the understanding about the usage of digital media (Pillai and Ji, 2017).

### 4.2.3 Occupation and Channels of Communication

This can be seen from Fig. 4.3 that across all occupational categories respondents used digital channels more than the traditional communication channels while buying a car.

![Figure 4.3: Occupation and Channels of Communication](image)

It can also be seen from the fig. 4.3 that 31% of the respondents who used digital channels of communication belonged to service occupational category. 9% of the respondents belonging to service occupational category also used traditional channels of communication. 24% of the respondents belonging to student occupational category made use of digital channels of communication whereas only 6% of student respondents used traditional channels of communication. 16% of the respondents belonging to business occupational category used digital channels of communication whereas only 6% of respondents used traditional channels of communication in business occupational category. 5% of the respondents belonging to home-maker category used digital channels of communication while buying a car whereas 3.5% of home-maker respondents used traditional channels of communication.

Table 4.13 displays the frequency details of the sample resulting from the cross-tabulation of occupation and channels of communication.
Table 4.13: Cross Tabulation of Channels and Occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Channels of Communication</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional Channels</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(% within Channel)</td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>48 (24%)</td>
<td>189 (31%)</td>
</tr>
<tr>
<td>Service</td>
<td>74 (38%)</td>
<td>244 (41%)</td>
</tr>
<tr>
<td>Business</td>
<td>48 (24%)</td>
<td>128 (21%)</td>
</tr>
<tr>
<td>Home-maker</td>
<td>28 (14%)</td>
<td>42 (7%)</td>
</tr>
<tr>
<td></td>
<td>Traditional Channels</td>
<td>198</td>
</tr>
<tr>
<td></td>
<td>Digital Channels</td>
<td>603</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>801</td>
</tr>
</tbody>
</table>

It can be seen from the table 4.13 that 41% of respondents belonging to service category made maximum use of digital channels while buying a car followed by 31% of respondents belonging to student category. Home-makers made the least use (7%) of the digital channels while buying a car. Respondents belonging to service category (38%) followed by student (24%) and business (24%) category made maximum use of traditional channels of communication while buying a car.

Both the variables namely the occupation and usage of communication channels were measured at nominal scale having mutually exclusive categories. So, statistical significance of the descriptive results was checked with the help of non-parametric test Chi-square (Table 4.14). The test was applied at 5% level of significance. Following hypotheses were laid down for the test:

H⁰₄: There is no association between occupation and channel of communication while buying a car.

Hₐ₄: There is an association between occupation and channel of communication while buying a car.

Table 4.14: Chi-Square Statistic for Occupation and Communication Channels

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>12.299ᵃ</td>
<td>3</td>
<td>.006</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>11.517</td>
<td>3</td>
<td>.009</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>10.419</td>
<td>1</td>
<td>.001</td>
</tr>
<tr>
<td>Cramer’s V</td>
<td>.124</td>
<td></td>
<td>.006</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>801</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.30.

This can be seen from the table 4.14 that Chi-square statistic was found significant associated with a statistic value of 12.299 associated with .006 significance level. The significant value of the statistic indicated that two variables namely
occupation and communication channels were not independent and related to each other. Respondents with various occupational backgrounds used digital channels more than the traditional channels of communication while buying a car. Respondents belonging to service occupational category made maximum use of digital channels followed by the student respondents. Respondents belonging to service category also made maximum use of traditional channels of communication while buying a car. The strength of association between occupation and channels of communication was seen with the help of Cramer’s V statistic. A significant value of .124 (Table 4.14) indicated a low association between occupation and channels of communication. Although, low association was observed between occupation and channels of communication, still the significance value of .006 suggested that such association was difficult to exist by chance. So, hereby alternate hypothesis \( H_{a4} \) was accepted which stated that association existed between occupation and channel of communication.

The probable explanation for the observed results can be attributed to the enhanced exposure of digital technologies for the students and people in service and business. Now-a-days, it is common for almost every university and institute to use digital channels for diverse purposes ranging from conducting online test, running online certification courses, online fee deposit, online declaration of exams result, putting important notices and circulars on university/institute’s website to disseminating information of general interest. Many a times, universities and institutes run special campaigns to make students aware about the digital transactions (Belur, 2016). Students also, on the other hand have early exposure to the various digital platforms right from their school days, which puts them at greater ease while dealing with such technologies for fulfilling different needs (Erickson, 2012). For people employed in different services (jobs), this is the Government’s impetus and encouragement for digital transactions, which facilitate the greater use of digital channels of communication (Jayaram, 2016). Businesses all over the globe have realized the competitive edge of digital channels in terms of customer engagement, reach, interactivity and cost effectiveness; which makes digital the most sought after communication alternative (Edelman and Heller, 2015).

As, occupation, the demographic variable was found having significant association with the channel of communication, the variable was further analyzed for understanding its association with specific digital channel of association, if any.

### 4.2.3.1 Occupation and Digital Channels Association

It was intended to see whether an association existed between particular occupation and specific digital channel used by the respondents. Following hypotheses were postulated for the test:

\( H_{05} \): There is no association between particular occupation and specific digital channel of communication while buying a car.

\( H_{a5} \): There is an association between particular occupation and specific digital channel of communication while buying a car.
Both the variables namely the occupation and usage of digital channels were measured at nominal scale having mutually exclusive categories whereby respondent’s response for each digital channel was recorded either as use or no use. Categorical unpaired data was collected from large sample that also ensured the minimum expected cell count of more than five in eighty percent of the cells. Not a single cell contained the expected frequency count of less than one. Data successfully met all the assumptions of one of the most useful analytical tools, Chi-square. So, Chi-square test was applied as a test of significance in order to see the association between occupation and specific digital channel of communication. Chi-square was calculated for each digital channel (i.e. Websites, SNS, YouTube, Phone, Smartphone, Online Communities, Digital Outdoor, Digital TV, E-mail and Others) and results were represented in the form of a summary table 4.15.

Table 4.15 summarizes the results for use of various digital channels by the respondents (it doesn’t depict the non-use count for the sake of simplicity and better understanding) whereby it can be seen that that although websites, social networking sites, YouTube, and smartphones were the most used digital channels of the respondents while buying a car, but they were used indiscriminately by the respondents belonging to various occupations. However, mobile phone as a digital channel was used the most by the respondents in the service category. Respondents belonging to home-maker category made the least use of mobile phone as a digital channel of communication while buying a car.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>WS</th>
<th>SNS</th>
<th>YT</th>
<th>Phone</th>
<th>SP</th>
<th>OC</th>
<th>DO</th>
<th>DTV</th>
<th>Email</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>165</td>
<td>89</td>
<td>68</td>
<td>22</td>
<td>73</td>
<td>38</td>
<td>54</td>
<td>54</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Service</td>
<td>220</td>
<td>114</td>
<td>104</td>
<td>58</td>
<td>113</td>
<td>63</td>
<td>78</td>
<td>72</td>
<td>26</td>
<td>13</td>
</tr>
<tr>
<td>Business</td>
<td>104</td>
<td>52</td>
<td>56</td>
<td>19</td>
<td>53</td>
<td>37</td>
<td>32</td>
<td>42</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Home-Maker</td>
<td>38</td>
<td>18</td>
<td>18</td>
<td>11</td>
<td>17</td>
<td>10</td>
<td>14</td>
<td>17</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Total (out of 603)</td>
<td>527</td>
<td>273</td>
<td>246</td>
<td>110</td>
<td>256</td>
<td>148</td>
<td>178</td>
<td>185</td>
<td>64</td>
<td>23</td>
</tr>
<tr>
<td>% of Usage</td>
<td>87.4</td>
<td>45.3</td>
<td>40.8</td>
<td>18.2</td>
<td>42.5</td>
<td>24.5</td>
<td>29.5</td>
<td>30.7</td>
<td>10.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Significance level</td>
<td>.092</td>
<td>.643</td>
<td>.442</td>
<td>.004</td>
<td>.433</td>
<td>.314</td>
<td>.506</td>
<td>.431</td>
<td>.925</td>
<td>.346</td>
</tr>
<tr>
<td>Cramer’s V</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.148</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The Cramer’s V statistic value was found as .148 which meant that low association or correlation existed between occupation and use of mobile phone as a digital channel while buying a car. Although low/medium association was observed between specific digital channel of communication and particular occupational category, still significance value of .004 suggested that such association was difficult to exist by chance. So, hereby alternate hypothesis (H₅) was accepted which stated that an association existed between particular occupation and specific digital channel of communication.
4.2.4 Income and Channels of Communication

It can be seen from the Fig. 4.4 that respondents belonging to all income categories used digital channels of communication more than the traditional channels of communication while buying a car.

32% of the respondents using digital channels of communication while buying a car, were found belonging to annual income category of 4 Lakhs and above but below 8 Lakhs. 11% of the respondents from the same income category used traditional channels of communication while buying a car. 24% of the respondents using digital channels of communication belonged to 8 Lakhs and above but below 20 Lakhs income category whereas only 7% from the same income category used traditional channels of communication. 13% of the respondents belonging to less than 4 lakhs annual income category used digital channels of communication whereas only 5% used traditional communication channel. 7% of the respondents belonging to above 20 lakhs income category used digital channels of communication, whereas only 1% of respondents from the same income category used traditional channel of communication while buying a car.

Table 4.16 displays the frequency details of the sample resulting from the cross-tabulation of annual household income and channels of communication.
Table 4.16: Cross Tabulation of Channels and Annual Household Income

<table>
<thead>
<tr>
<th>Annual Household Income</th>
<th>Channels of Communication</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional Channels (% within Channel)</td>
<td>Digital Channels (% within Channel)</td>
</tr>
<tr>
<td>Below 4 Lakhs</td>
<td>43 (22%)</td>
<td>107 (18%)</td>
</tr>
<tr>
<td>4 Lakhs and above but below 8 Lakhs</td>
<td>87 (44%)</td>
<td>253 (42%)</td>
</tr>
<tr>
<td>8 Lakhs and above but below 20 Lakhs</td>
<td>58 (29%)</td>
<td>188 (31%)</td>
</tr>
<tr>
<td>20 Lakhs and above</td>
<td>10 (5%)</td>
<td>55 (9%)</td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>603</td>
</tr>
</tbody>
</table>

It can be seen from the table 4.16 that 42% of respondents belonging to 4 Lakhs and above but below 8 Lakhs followed by 31% of respondents belonging to 8 Lakhs and above but below 20 Lakhs income category made the maximum use of digital channels of communication. It was found that when respondents made use of traditional channels of communication, 44% of respondents belonging to 4 Lakhs and above but below 20 Lakhs income category made the maximum use of traditional channels of communication.

Both the variables namely the annual household income and usage of communication channels were measured at nominal scale having mutually exclusive categories. So, non-parametric test Chi-Square, at 5% level of significance was applied as test of significance (Table 4.17). Following hypotheses were laid down for the test:

H₀₆: There is no association between income and channel of communication while buying a car.
Hₐ₆: There is an association between income and channel of communication while buying a car.

Table 4.17: Chi-Square Statistic for Annual Household Income and Communication Channels

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>4.610*</td>
<td>3</td>
<td>.203</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>4.900</td>
<td>3</td>
<td>.179</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>3.945</td>
<td>1</td>
<td>.047</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>801</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.07.

The statistic was found insignificant with a statistic value of 4.610 at .203 significance level (Table 4.17). The insignificant value of Chi-Square test statistic indicated that two variables were independent and not related to each other. So, null hypothesis (H₀₆) could not be rejected and it was concluded that ‘income’ and channels of communication had no association and respondents belonging to various income categories used both channels of communication indiscriminately. Results might be attributed to the reduced prices of digital devices and data plans in India which are motivating the customers from all walks of life to join the ‘digital revolution’. Digital
media fulfills the very basic desire of communication at relatively low cost and people are using the digital platforms to fulfill their fundamental need of seeking information and connectedness (Pearson, 2013).

### 4.2.5 Gender and Channels of Communication

Fig. 4.5 shows that both male and female respondents used digital channels more than the traditional channels while buying a car.

![Figure 4.5: Gender and Use of Communication Channels](image)

This can be seen from Fig. 4.5 that 49% of male respondents used digital channels whereas only 14% of male respondents used traditional channels of communication. 26% of the female respondents used digital channels whereas about 11% of female respondents used traditional communication channels while buying a car.

Table 4.18 displays the frequency details of the sample resulting from the cross-tabulation of gender and channels of communication.

#### Table 4.18: Cross Tabulation of Channels and Gender

<table>
<thead>
<tr>
<th>Gender of the Respondent</th>
<th>Channels of Communication</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional Channels (% within Channel)</td>
<td>Digital Channels (% within Channel)</td>
</tr>
<tr>
<td>Male</td>
<td>114 (58%)</td>
<td>395 (65%)</td>
</tr>
<tr>
<td>Female</td>
<td>84 (42%)</td>
<td>208 (35%)</td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>603</td>
</tr>
</tbody>
</table>
Table 4.18 shows that male respondents (65%) made more use of digital channels of communication in comparison to female respondents (35%) while buying a car. A similar trend was also observed in making use of traditional channels of communication where male respondents (58%) used traditional channels more in comparison to female respondents (42%).

Statistical significance of the descriptive results was checked with the help of Chi-square at 5% level of significance (Table 4.19). Following hypotheses were set for the test:

\( H_0 \): There is no association between gender and channel of communication while buying a car.

\( H_a \): There is an association between gender and channel of communication while buying a car.

**Table 4.19: Chi-Square Statistic for Gender and Communication Channels**

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>4.046</td>
<td>1</td>
<td>.044</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>3.993</td>
<td>1</td>
<td>.046</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>4.041</td>
<td>1</td>
<td>.044</td>
</tr>
<tr>
<td>Cramer’s V</td>
<td>.071</td>
<td></td>
<td>.044</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>801</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 72.18.

This can be seen from the table 4.19 that Chi-square test statistic was found significant associated with a value of 4.046 with .044 significance level (Table 4.19). The significance value of Chi-square statistic indicated that two variables namely gender and channels of communication were related to each other. The strength of association between gender and channels of communication was seen with the help of Cramer’s V statistic. A significant value of .071 (Table 4.19) indicated a ‘very low’ association between gender and channels of communication. Although, very low association was observed between gender and channels of communication, still the significance value of .044 suggested that such association was difficult to exist by chance. So, hereby alternate hypothesis (\( H_a \)) was accepted which stated that association existed between gender and channels of communication. Male respondents excelled over female respondents in using both the channels of communication while buying a car.

The observed results can be accredited to the patriarchal Indian society wherein one can observe the great gender inequality. Females in India are not at par with their counterparts on important parameters like education, income, access to resources and social independence (Kishore and Gupta, 2009). Moreover, females have limited say in important decisions and majority of the important decision are taken by males (Beedy, 2015).
As, gender, the demographic variable was found having significant association with the channel of communication, the variable was further analyzed for understanding its association with specific digital channel of association, if any.

4.2.5.1 Gender and Digital Channels Association

It was intended to see whether an association existed between gender and specific digital channel used by the respondents. Following hypotheses were proposed for the test:

- \( H_{08} \): There is no association between gender and specific digital channels of communication used while buying a car.
- \( H_{a8} \): There is an association between gender and specific digital channels of communication used while buying a car.

Both the variables namely the gender and usage of digital channels were measured at nominal scale having mutually exclusive categories whereby respondent’s response for each digital channel was recorded either as use or no use. Categorical unpaired data was collected from large sample that also ensured the minimum expected cell count of more than five in eighty percent of the cells. Data successfully met all the assumptions of one of the most useful analytical tools, Chi-square. So, Chi-square test was applied as a test of significance in order to see the association between gender and specific digital channel of communication. Chi-square was calculated for each digital channel (i.e. Websites, SNS, YouTube, Phone, Smartphone, Online Communities, Digital Outdoor, Digital TV, E-mail and Others) and results were represented in the form of a summary table 4.20.

<table>
<thead>
<tr>
<th>Gender</th>
<th>WS</th>
<th>SNS</th>
<th>YT</th>
<th>Phone</th>
<th>SP</th>
<th>OC</th>
<th>DO</th>
<th>DTV</th>
<th>Email</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>346</td>
<td>172</td>
<td>160</td>
<td>77</td>
<td>168</td>
<td>102</td>
<td>112</td>
<td>124</td>
<td>45</td>
<td>18</td>
</tr>
<tr>
<td>Female</td>
<td>187</td>
<td>101</td>
<td>86</td>
<td>33</td>
<td>88</td>
<td>46</td>
<td>66</td>
<td>61</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>Total (out of 603)</td>
<td>527</td>
<td>273</td>
<td>246</td>
<td>110</td>
<td>256</td>
<td>148</td>
<td>178</td>
<td>185</td>
<td>64</td>
<td>23</td>
</tr>
<tr>
<td>% of Usage</td>
<td>87.4</td>
<td>45.3</td>
<td>40.8</td>
<td>18.2</td>
<td>42.5</td>
<td>24.5</td>
<td>29.5</td>
<td>30.7</td>
<td>10.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Chi-Square Value</td>
<td>.041</td>
<td>1.382</td>
<td>.040</td>
<td>1.203</td>
<td>.003</td>
<td>1.011</td>
<td>.747</td>
<td>.273</td>
<td>.732</td>
<td>1.695</td>
</tr>
<tr>
<td>Significance level</td>
<td>.840</td>
<td>.240</td>
<td>.842</td>
<td>.273</td>
<td>.958</td>
<td>.315</td>
<td>.388</td>
<td>.601</td>
<td>.392</td>
<td>.193</td>
</tr>
</tbody>
</table>

Table 4.20 summarizes the results for use of various digital channels by the respondents (it doesn’t depict the non-use count for the sake of simplicity and better understanding) whereby it can be seen that that ‘chi-square’ test statistic was found ‘insignificant’ for every digital channel which meant that all digital channels were used indiscriminately by both the genders. So, null hypothesis \( (H_{08}) \) could not be rejected and
it was concluded that gender of the respondent didn’t have any association with specific digital channel of communication. It can also be apprehended from the findings that although male respondents excelled in making greater use of digital channels of communication over females, still it could not be ascertained which particular digital channel was used the most by them.

It was found from the analysis that only three demographic variables namely age, occupation and gender in the study were found significant towards usage of digital marketing channels while buying a car. So, null hypothesis was rejected in favour of alternate hypothesis that stated that there was a relationship between demographic profile of the consumer and type of communication channel used while buying a car.

4.3 PLACE OF LIVING AND CHANNELS OF COMMUNICATION

It can be seen from the Fig. 4.6 that respondents belonging to urban, semi-urban and rural areas used digital channels of communication more in comparison to traditional channels of communication while buying a car.

![Figure 4.6: Place of Living and Use of Communication Channels](image)

35% of the respondents belonging to urban area used digital channels of communication whereas only about 10.5% of urban respondents used traditional communication. 21% of the semi-urban respondents used digital channels whereas only 7% of the semi-urban respondents used traditional channel. 20% of rural respondents used digital channels of communication whereas about 7.5% of rural respondents used traditional channel of communication.

Table 4.21 displays the frequency details of the sample resulting from the cross-tabulation of place of living and channels of communication.
Table 4.21: Cross Tabulation of Channels and Place of Living

<table>
<thead>
<tr>
<th>Place of Living</th>
<th>Channels of Communication</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional Channels (%)</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>(43%)</td>
<td>364</td>
</tr>
<tr>
<td>Semi-Urban</td>
<td>(27%)</td>
<td>220</td>
</tr>
<tr>
<td>Rural</td>
<td>(30%)</td>
<td>217</td>
</tr>
<tr>
<td></td>
<td>Digital Channels (%)</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>(46%)</td>
<td>364</td>
</tr>
<tr>
<td>Semi-Urban</td>
<td>(28%)</td>
<td>220</td>
</tr>
<tr>
<td>Rural</td>
<td>(26%)</td>
<td>217</td>
</tr>
</tbody>
</table>

Table 4.21 shows that respondents belonging to urban (46%) area followed by semi-urban area (28%) made maximum use of digital channels while buying a car. Respondents belonging to urban area (42%) followed by rural area (30%) made maximum usage of traditional channels of communication while buying a car.

Both the variables namely the place of living and usage of communication channels were measured at nominal scale having mutually exclusive categories. So, Chi-square was applied as a test of significance at 5% level of significance, in order to see the significance of the result obtained (Table 4.22). Following hypotheses were set for the test:

H<sub>0</sub>: There is no association between place of living and channel of communication while buying a car.

H<sub>a</sub>: There is an association between place of living and channel of communication while buying a car.

Table 4.22: Chi-Square Statistic for Place of Living and Communication Channels

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>1.533</td>
<td>2</td>
<td>.465</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>1.516</td>
<td>2</td>
<td>.469</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>1.474</td>
<td>1</td>
<td>.225</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>801</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 53.64.

The Chi-square statistic was found insignificant with a statistic value of 1.533 associated with .465 significance level (Table 4.22). The insignificant value of Chi-Square statistic indicated that two variables namely place of living and channels of communication were independent and not related to each other. So, null hypothesis (H<sub>0</sub>) could not be rejected and it was concluded that place of living and channels of communication had no association and respondents belonging to urban, semi-urban and rural areas used both channels of communication indiscriminately. The probable explanation for the observed findings can be accredited to the metropolitan nature of sampling area i.e. Delhi. Rural areas of Delhi are not similar to the true hinterlands in the country and also share the metropolitan culture of the capital. The findings can be
better understood by looking at the recent reports of DeitY India (2015) and Statista (2016) which state that ‘digital divide’ between urban and rural customers is decreasing in India and customers from rural India are contributing significantly to the Indian digital revolution.

4.4 CAR BRAND AND CHANNELS OF COMMUNICATION

It can be seen from Fig. 4.7 that across all car brands, respondents used digital channels more than the traditional channels of communication.

![Figure 4.7: Brand of Car Owned and Use of Communication Channels](image)

28.5% of the ‘Maruti’ car owners used digital channels of communication whereas only 11% used traditional channels of communication. 16% of ‘Hyundai’ owners used digital channels of communication whereas only 5% Hyundai owners used traditional communication. Similar results were obtained for other car brands and potential customers too.

It can be seen from the table 4.23 that Car owners of Maruti (38%) and Hyundai (21%) along with potential customers (8%) made the maximum use of digital channels of communication while buying a car. Car owners of Maruti (43%) and Hyundai (22%) along with potential customers (6%) also made maximum use of traditional channels of communication.
## Table 4.23: Cross Tabulation of Channels and Brand of Car Owned

<table>
<thead>
<tr>
<th>Brand of Car</th>
<th>Channels of Communication</th>
<th>Channels of Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional Channels (% within Channel)</td>
<td>Traditional Channels (% within Channel)</td>
</tr>
<tr>
<td>Maruti</td>
<td>86 (43%)</td>
<td>228 (38%)</td>
</tr>
<tr>
<td>Hyundai</td>
<td>43 (22%)</td>
<td>127 (21%)</td>
</tr>
<tr>
<td>Tata</td>
<td>5 (2.5%)</td>
<td>26 (4%)</td>
</tr>
<tr>
<td>Ford</td>
<td>5 (2.5%)</td>
<td>16 (3%)</td>
</tr>
<tr>
<td>Polo</td>
<td>5 (2.5%)</td>
<td>22 (4%)</td>
</tr>
<tr>
<td>Toyota</td>
<td>15 (8%)</td>
<td>32 (5%)</td>
</tr>
<tr>
<td>Renault</td>
<td>2 (1%)</td>
<td>8 (1%)</td>
</tr>
<tr>
<td>Chevrolet</td>
<td>4 (2%)</td>
<td>7 (1%)</td>
</tr>
<tr>
<td>Honda</td>
<td>8 (4%)</td>
<td>45 (8%)</td>
</tr>
<tr>
<td>BMW</td>
<td>2 (1%)</td>
<td>12 (2%)</td>
</tr>
<tr>
<td>Audi</td>
<td>3 (1.5%)</td>
<td>6 (1%)</td>
</tr>
<tr>
<td>Porsche</td>
<td>1 (0.5%)</td>
<td>1 (0.2%)</td>
</tr>
<tr>
<td>Skoda</td>
<td>5 (2.5%)</td>
<td>6 (1%)</td>
</tr>
<tr>
<td>Mahindra</td>
<td>1 (0.05%)</td>
<td>13 (2%)</td>
</tr>
<tr>
<td>HM</td>
<td>1 (0.5%)</td>
<td>2 (0.3%)</td>
</tr>
<tr>
<td>Mercedes</td>
<td>0 (0%)</td>
<td>3 (0.5%)</td>
</tr>
<tr>
<td>Potential Customers</td>
<td>12 (6%)</td>
<td>49 (8%)</td>
</tr>
<tr>
<td>Total</td>
<td>198</td>
<td>603</td>
</tr>
</tbody>
</table>

Both the variables namely the brand of car owned and usage of communication channels, were measured at nominal scale having mutually exclusive categories. Chi-square at 5% level of significance was applied as a test of significance in order to see the significance of the result obtained (Table 4.24). Following hypotheses were postulated for the test:

H\(_{010}\): There is no association between brand of car owned and channel of communication while buying a car.

H\(_{a10}\): There is an association between brand of car owned and channel of communication while buying a car.

## Table 4.24: Chi-Square Statistic for Brand of Car Owned and Communication Channels

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>16.567(^a)</td>
<td>16</td>
<td>.414</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>17.930</td>
<td>16</td>
<td>.328</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>2.288</td>
<td>1</td>
<td>.130</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>801</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(a\). 12 cells (35.3%) have expected count less than 5. The minimum expected count is .49.
The statistic was found insignificant with a statistic value of 16.567 associated with .414 significance level (Table 4.24). The insignificant value of Pearson Chi-Square statistic indicated that two variables were independent and not related to each other. So, null hypothesis \( H_{010} \) could not be rejected and it was concluded that brand of car owned and channels of communication had no association and respondents owning various car brands as well as potential customers used both the channels of communication indiscriminately. The findings can be apprehended by appreciating the fact that buying a car is complex buying decision process characterized by high degree of involvement and for such purchases customers normally rely upon all the possible sources of information to make an informed decision (Assael, 1974). Car also being a self-expressive product, is subjected to social approval ultimately augmenting the confidence of the buyer in the purchase and reducing post-purchase dissonance (Aaker and McLoughlin, 2009). So, it is very likely that car buyers resort to both the channels of communication while buying a car.

### 4.5 DEMOGRAPHIC PROFILING OF THE CUSTOMERS: CLUSTER ANALYSIS

Although age, occupation and gender were identified as significant demographic factors which had an association with digital channels of communication, a more comprehensive grouping of respondents would help the marketers greatly. To obtain the homogeneous sub-groups of respondents based upon the similarity towards variables of interest, cluster analysis was used in the study. The significant variables namely age, occupation and gender along with channel of communication were used in the ‘k-way cluster analysis’ to better understand the customer profile that might use the digital channels of communication while buying a car.

Cluster analysis is used to group individual cases into homogeneous sub-groups based upon the similar response towards variables of interest. For large datasets, ‘K-means clustering’ facilitates selection of pre-defined number of clusters. For the study, three (3) was the pre-defined number of clusters. K-means Clustering algorithm assigns individual cases to clusters on the basis of smallest amount of distance between the cluster mean and individual case. Clustering is iterative in nature and the process stops when significant change is not observed in cluster means after adding or deleting a single case.

Table 4.25 shows the results of initial cluster centres which showed the variable means for each cluster in output.

Total 10 iterations were performed with dealt with repetitive sequence of operations until the clusters didn’t change substantially. After 10 iterations, convergence was achieved due to very minor changes in clusters and henceforth iteration stopped.
Table 4.25: Initial Clusters Centers

<table>
<thead>
<tr>
<th>Clustering Variables</th>
<th>Cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>31-35 Years</td>
</tr>
<tr>
<td>Occupation</td>
<td>Home-Maker</td>
</tr>
<tr>
<td>Gender of the Respondent</td>
<td>Female</td>
</tr>
<tr>
<td>Channel of Communication</td>
<td>Traditional</td>
</tr>
</tbody>
</table>

Final Cluster Centers Table 4.26 explains the different clusters formed after the analysis. It can be seen from the table that Cluster 1 had the male respondents belonging to 26-30 years age group mainly in business as an occupational category. This segment can be named as ‘Progressive Enterprisers’ as segment included the young respondents in business class. Cluster 2 had male students belonging to 18-25 years of age group. This segment can be named as ‘Young Digital Legions’ because of being comprised of young students. Cluster 3 had the male respondents belonging to service category in the 36-40 years age group. This segment can be named as ‘Occupied Wrights’ because of having employed mid-aged respondents. All three clusters had the respondents who were using digital channels of communication while buying a car.

Table 4.26: Final Clusters Centers

<table>
<thead>
<tr>
<th>Clustering Variables</th>
<th>Cluster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>26-30 Years</td>
</tr>
<tr>
<td>Occupation</td>
<td>Business</td>
</tr>
<tr>
<td>Gender of the Respondent</td>
<td>Male</td>
</tr>
<tr>
<td>Channel of Communication</td>
<td>Digital</td>
</tr>
</tbody>
</table>

Table 4.27 gives the differences between final cluster centers which depicted the ‘Euclidean distances’ between the final cluster centers. Euclidean distance between two clusters is computed by taking the square root of the sum of the squares of the differences between cluster means. Greater Euclidean distance between clusters infers the greater dissimilarity between clusters. It can be seen from the table that Clusters 2 and 3 had the maximum distance (3.480) ensuring the maximum dissimilarity. However, Cluster 1 was not very different from clusters 2 (1.934) and 3 (2.248).
Table 4.27: Distances between Final Cluster Centers

<table>
<thead>
<tr>
<th>Cluster</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimension 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>1.934</td>
<td>2.248</td>
</tr>
<tr>
<td>2</td>
<td>1.934</td>
<td></td>
<td>3.480</td>
</tr>
<tr>
<td>3</td>
<td>2.248</td>
<td>3.480</td>
<td></td>
</tr>
</tbody>
</table>

ANOVA table 4.28 describes which variables contributed the most towards clustering. It can be seen from the table that gender of the respondents contributed the least towards clustering and was found associated with very small F value 1.510 with a significance value of .222. As the significance value is more than the cut off value i.e. .05, it can be interpreted that gender of the respondent was not significant in making its contribution towards clustering. Age contributed the most towards clustering.

Table 4.28: ANOVA Table for Cluster Analysis

<table>
<thead>
<tr>
<th>Clustering Variables</th>
<th>Cluster</th>
<th>Error</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Square</td>
<td>df</td>
<td>Mean Square</td>
<td>df</td>
</tr>
<tr>
<td>Age</td>
<td>812.797</td>
<td>2</td>
<td>.379</td>
<td>798</td>
</tr>
<tr>
<td>Occupation</td>
<td>194.205</td>
<td>2</td>
<td>.372</td>
<td>798</td>
</tr>
<tr>
<td>Gender of the Respondent</td>
<td>.350</td>
<td>2</td>
<td>.232</td>
<td>798</td>
</tr>
<tr>
<td>Communication Channels</td>
<td>1.396</td>
<td>2</td>
<td>.183</td>
<td>798</td>
</tr>
</tbody>
</table>

Table 4.29 shows the number of cases in each cluster. Cluster 1 had 201 cases, cluster 2 had 268 cases and cluster 3 had 332 cases.

Table 4.29: Number of Cases in Each Cluster

<table>
<thead>
<tr>
<th>Cluster</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>201</td>
</tr>
<tr>
<td>2</td>
<td>268</td>
</tr>
<tr>
<td>3</td>
<td>332</td>
</tr>
<tr>
<td>Valid</td>
<td>801</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
</tr>
</tbody>
</table>

Cluster analysis (k-way) classifies the individual cases to manageable pre-defined clusters (3 for the current study) but does not test for the significant difference among the cluster means. However ‘silhouette measure of cohesion and separation’ was applied as a measure of the clustering solution’s overall goodness-of-fit. The value of the statistic is normally based upon the average distances between the objects and can vary between -1 and +1. Specifically, a silhouette measure of less than 0.20 indicates a ‘poor’ solution quality, a measure between 0.20 and 0.50 a ‘fair’ solution, whereas values of more than 0.50 indicate a ‘good’ solution.
For the present study by looking at the horizontal bar (Fig. 4.8), the measure value was found more than .50, which meant that clusters formed were of ‘good’ quality.

Cluster analysis was followed by discriminant analysis to ascertain the significance of the results obtained. Age, occupation and gender, all three demographic variables successfully discriminated towards the usage of channel of communication. The Wilk’s Lambda was found significant with a value of .958 (.000 sig. value). The centroid value representing the mean score for usage of channels of communication was found as .363 and -.119 and cut off score for the discriminant function was found as 0. Age of the respondent was found contributing the most towards the discrimination of channel of usage with 97% contribution (.000 sig.) which was followed by occupation of the respondent contributing 55% towards discrimination (.001 sig.). ‘Gender’ of the respondent contributed the least towards the discrimination with 34% contribution (.044 sig.). Overall the discriminant function correctly classified about 65% of the cases in the study. The discriminating function for usage of channel of communication can be written as Eq. (4.1):

\[ Y = -2.556 + .607 \times \text{Age} + .666 \times \text{Gender} + .032 \times \text{Occupation} \]  \hspace{1cm} (4.1)

4.6 CONCLUDING REMARKS

This chapter aimed to understand the demographic profile of the customers using digital channels of communication. Age, income, occupation, gender and education were the major demographic variables used in the study to understand the same. Place of living and brand of car owned were also included in the study to understand the association if any with usage of channels of communication. The association between channel of communication and demographic variables was seen and it was found that age, occupation and gender found significant association.
with digital channels of communication. However, digital remained the preferred channels of communication for respondents belonging to different educational background and income categories, but association was not significant. Respondents belonging to different place of living and owning different car brands (including potential customers also) didn’t have any specific association with the channel of communication.

It was observed that young respondents belonging to 18-25 years age group followed by 26-30 years age group made maximum use of digital channels while buying a car. Respondents belonging to 36-40 years age groups made least use of digital channels while buying a car. Respondents belonging to above 40 years age group made maximum use of traditional communication channel while buying a car. Digital channels like mobile phones, DTV and online communities found specific association with age whereby mobile phone was used the most by the respondents belonging to above 40 years age group and least used by the respondents belonging to 36-40 years age group. Digital TV was used the most by the respondents falling in 18-25 years age group and least used by 31 to 35 years age group respondents. Online communities were used the most by the respondents belonging to 18-25 years age group and least used by respondents belonging to above 40 years age group while buying a car. Respondents belonging to service category made maximum use of digital channels while buying a car followed by respondents belonging to student category. Mobile phone the contemporary digital channel found specific association with occupation whereby it was used the most by the respondents in the service category and least used by the homemakers. Male respondents made more use of digital channels of communication in comparison to female respondents.

The study also identified three different customer segments using cluster analysis which could be targeted by the marketers to effectively market the desired product. Age of the respondent contributed the most towards usage of channel of communication followed by the occupation. The three different clusters were named as Progressive Enterprisers (young respondents in business), Young Digital Legions (young students) and Occupied Wrights (working professionals in late 30’s).