CHAPTER-6

IDENTIFICATION OF SEGMENTS

Pottery
Source: Ministry of Tourism, Government of India.
6.0 Introduction:

The factors extracted through data reduction process can further be analysed to identify the important segments. Segmentation of the respondents will help to explore the variables that serve as determining factor in the extent of expenditure incurred. Classification variables like age, education, origin, occupation, previous travelling experience, daily budget, gender, marital status and purposes of visit are used in this study. The data are analysed using one-way ANOVA and Independent Sample T-Test. Hypotheses are formulated for this purpose. The hypotheses formulated are described below.

Hypothesis Tested:

Two generic hypotheses are tested for measuring the affect of classification variables on the extent of expenditure incurred. These are:

(1) Null Hypothesis: The Null Hypothesis can be mathematically expressed as follows;

\[ H_0 : \mu_A = \mu_B = \mu_C = \cdots = \mu_n \] (1)

And,

(2) Alternate Hypothesis: Mathematically the Alternate Hypothesis can be expressed as below;

\[ H_1 : \mu_A \neq \mu_B \neq \mu_C \neq \cdots \neq \mu_n \] (2)

Where,

\( H_0 \) means that the extent of expenditure incurred on a particular expenditure head (factor) is equal for all the respondents.

\( H_1 \) states that the extent of expenditure incurred on a particular head (factor) isn’t equal for all the respondents at a particular level of significance.

\( \mu \) shows the mean factor scores of each Respondent under segment. The factor scores are derived from raw data using a formula as stated in the page no 110 of chapter-5. An interval scale of ‘1’ to ‘10’ is used for measuring the extent of expenditure incurred where ‘1’ means least expenditure and ‘10’ means highest expenditure.

\( \mu_A, \mu_B, \mu_C \) represent the factor scores of the respective segment under consideration for particular hypothesis. The hypotheses are tested to explore segments that significantly affect the extent of expenditure incurred by respondents. The
number of variables tested ranges from two (2) to eleven (11) and for the purpose analysis using SPSS, the numeric variables are converted into string variables using alphabets.

\( \mu_n \) represents the last variable in a particular group. The last variable of the group vary from variable to variable. For example, the variable Age, the respondents were classified as less than 25 years; 25-40 years; 40-60 years, and 60 and above years. For the purpose of analysis, the factor score of the variable 'Less than 25 years' is expressed as \( \mu_A \); '25-40 years' as \( \mu_B \); 40-60 years’ stated as \( \mu_C \) and 60 and above’ as \( \mu_D \). Thus, there are four segments under consideration. But in another variable 11 (eleven) segments emerged (purpose of visit to Northeast India).

The one-way ANOVA is used in case there are more than two variables under study. If the Null Hypothesis is rejected in the ANOVA test, the Levene’s Test of Homogeneity of Variances is performed. This is done to extract variables showing significant differences within the group in respect of extent of expenditure. There are two Multiple Comparisons tables, namely, Bonferroni multiple comparison tables and Games-Howell multiple comparison tables. In a given situation only one table (either Bonferroni or Games-Howell) is adopted. In case where the Test of Homogeneity of Variances shows the value of 0.05 or less than it is an indication to adopt the Games-Howell multiple comparison table. But if the value measured is found to be more than 0.05 then Bonferroni multiple comparisons table is to be adopted. On the other hand, independent Sample T-test is conducted in cases where the number of variables under study is two.

The analysis is done to identify the variables having significant effect on the extent of expenditure incurred for each new factor. Thus analysis is done on four new factors which include Shopping, Personal Expenditure, Travel Expenditure, and Local Expenditure. The heads of expenditure included under ‘Beverage’ are analysed separately. In the following section these analyses are done. The maximum and minimum scores are highlighted in each descriptive table for easy understanding. The figure coloured green means maximum scores and the figure coloured turquoise signifies minimum scores. The mean of comprehensive scores are used as parameter for assessing the extent of expenditure incurred.
6.1. Expenditure on Shopping:

Expenditure on shopping include the comprehensive expenditure incurred on the heads other clothing, cosmetic items, gifts, decorative items, toiletries, and handicrafts. The mean of comprehensive scores of Shopping is not very high but still not negligible (2.57). The extent of expenditure incurred on this factor may be affected by the classification variables. The effect of the classification variable on the frequency of spending is examined below.

6.1.1 Age and Shopping: The extent of expenditure incurred by the respondents for the factor Shopping may have some relation with their age groups. To test this belief, the following hypothesis is prepared.

Hypothesis to be tested: Tourists of all age groups spend equal amount on Shopping.

Mathematically, the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

Where,

\[ \mu = \text{Tourists mean expenditure on Shopping} \]

\[ A = \text{Less than 25 years} \]

\[ B = \text{Between 25-40 years} \]

\[ C = \text{Between 40-60 years} \]

\[ D = \text{60 years and above} \]

The ANOVA test result as reproduced in the Table 6.0 shows the probability (p) value as 0.221. The Null Hypothesis of equality in expenditure can’t be rejected as the probability value (0.221) is more than \( \alpha \) at 0.05 level. The descriptive Table 6.1 shows the mean scores of the respondents. Thus, it is seen that pair-wise differences can not be
drawn between the respondents for expenditure incurred on Shopping. It can be concluded that the amount incurred on Shopping is not sensitive to tourists' age.

6.1.2. Origin and Shopping: The origin of the population is an important variable that may have a significant bearing on the extent of expenditure incurred on Shopping. The amount spent by the respondents in the destination area may vary on the basis of their origin.

Hypothesis to be tested: The extent of tourists' spending on Shopping may not be influenced by their place of origin.

Mathematically the hypothesis can be expressed as:

\[ H_0: \mu_A = \mu_B = \mu_C \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \]

Where,

\[ \mu = \text{Tourists mean expenditure on Shopping} \]
\[ A = \text{Regional Tourists} \]
\[ B = \text{National Tourists} \]
\[ C = \text{Foreign Tourists} \]

The ANOVA result as reproduced in the Table 6.2 shows that the hypothesis of equal means of frequency of spending on Shopping can be rejected. This is because that the probability value (0.000) is less than the significant value (0.05) at the 95% confidence level.

The means of frequency of spending of the respondents on the factor Shopping have got one-to-one difference across the origin of the respondents. The data reproduced in the descriptive Table 6.3 shows differences in mean values. The mean value of 'Foreign' tourist differs from the mean values of

<table>
<thead>
<tr>
<th>ANOVA</th>
<th>Table-6.2: Origin and Shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sum of Squares</td>
</tr>
<tr>
<td>Between Groups</td>
<td>82.374</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1076.449</td>
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<tr>
<td>Total</td>
<td>1158.823</td>
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</table>

<table>
<thead>
<tr>
<th>Test of Homogeneity of Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levene Statistic</td>
</tr>
<tr>
<td>25.861</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table-6.3: Origin and Shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>Regional</td>
</tr>
<tr>
<td>National</td>
</tr>
<tr>
<td>Foreign</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
'National' and 'Regional' tourists. But the difference isn't apparent between the tourists of 'Regional' and 'National' origin. It is seen that the mean of comprehensive scores of 'Regional' tourist is more (2.89) than the 'Foreign' tourists (1.86). An interesting conclusion can be drawn from this analysis that 'Foreign' tourists incur less on the factor 'Shopping' than 'Domestic' tourists.

6.1.3 Education and Shopping: The educational qualification obtained by tourists play a decisive role in consumer behaviour. It is one of the demographic profiles which is given due recognition by researchers. Educational background is also tested in this study to measure its effect on the variable 'Shopping'.

Hypothesis to be tested: The extent of expenditure incurred by the respondents on 'Shopping' may not be significantly related to their level of education.

Mathematically the hypothesis can be expressed as:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

\[ \mu = \text{Tourists mean expenditure on Shopping} \]
A= Graduates
B= Post-graduates
C= Professional
D= Others

The ANOVA test result as reproduced in the Table 6.4 shows that Null hypothesis can’t be rejected (0.929>0.05) at 95% confidence level. Descriptive Table 6.5 shows that there is no significant difference in the extent of expenditure incurred by the respondents for the factor ‘Shopping’. It can be concluded that the extent of expenditure on other clothing, cosmetic items, Gifts, decorative items,
toiletries, and handicrafts is equal for all tourists irrespective of their educational background.

6.1.4. Occupation and Shopping: The amount spent for the factor ‘Shopping’ may be sensitive to respondents’ Occupation. In order to test this belief of sensitiveness a hypothesis is tested.

**Hypothesis to be tested:** The mean scores for the factor ‘Shopping’ across the occupation of the respondents are not different.

Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

Where,

\( \mu = \) Tourists mean expenditure on Shopping

A = Service

B = Professional

C = Business

D = Others

<table>
<thead>
<tr>
<th>ANOVA</th>
<th>Table-6.6: Occupation and Shopping</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Sum of Squares</td>
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<tr>
<td>Between Groups</td>
<td>6.115</td>
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<tr>
<td>Within Groups</td>
<td>1152.708</td>
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<tr>
<td>Total</td>
<td>1158.823</td>
</tr>
</tbody>
</table>

It is also seen that the Null hypothesis can’t be rejected (P>0.05). Thus pair-wise differences can not be drawn on the basis variable ‘Occupation’. The figures as reproduced in the Table 6.7 show the means of comprehensive scores of the occupational variables. It is seen that respondents can’t be segmented on the basis of occupational background for expenditure incurred on Shopping.

<table>
<thead>
<tr>
<th>Table-6.7: Occupation and Shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Service</td>
</tr>
<tr>
<td>Professional</td>
</tr>
<tr>
<td>Businessmen</td>
</tr>
<tr>
<td>Others</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

6.1.5 Previous Travelling Experience and Shopping: Frequency of visit is an important determinant of volume of expenditure incurred for various purposes. The extent of expenditure incurred by visitors for a particular purpose may vary depending upon the previous travelling experiences.
Hypothesis to be tested: The extent of tourists’ expenditure on the factor ‘Shopping’ is equal to all segments based on previous travelling experience.

Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E \]  
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D = \mu_E \]

Where,
\[ \mu = \text{Tourists mean expenditure on Shopping} \]
\[ A = \text{Up to 7 places} \]
\[ B = 7-15 \text{ places} \]
\[ C = 15-20 \text{ places} \]
\[ D = 20-30 \text{ places} \]
\[ E = 30 \& \text{ above places} \]

The Null Hypothesis of equality of expenditure for the factor ‘Shopping’ is tested with the help of ANOVA. The test result as reproduced in the table 6.8 shows that p value (0.001) is less than \( \alpha \) at 95% confidence levels. Therefore, the Null Hypothesis is rejected. Now, to get deeper insight into the differences in the variables, the Multiple Comparisons table can be drawn. The Test of Homogeneity of Variances suggests that the Games-Howell Post-hoc method of multiple comparisons should be followed to extract the differences. It is found from the Post-hoc analysis that there is one-to-one difference between the variables of ‘30 and above places’ and ‘Up to 7 places’ & ‘7-15 places’. The figures reproduced in the descriptive Table 6.9 shows that the mean of comprehensive scores for the variable ‘30 and above places’ is comparatively less (2.20) within the groups. It can be concluded here that expenditure incurred by the respondents for the factor ‘Shopping’ is sensitive to the variable

<table>
<thead>
<tr>
<th>ANOVA Table-6.8: Previous Travelling Experience and Shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of Squares</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Between Groups</td>
</tr>
<tr>
<td>Within Groups</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
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<tr>
<td>6.252</td>
<td>4</td>
<td>530</td>
<td>.000</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Table-6.9: Previous Travelling Experience and Shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Up to 7 places</td>
</tr>
<tr>
<td>7-15 places</td>
</tr>
<tr>
<td>15-20 places</td>
</tr>
<tr>
<td>20-30 places</td>
</tr>
<tr>
<td>30 &amp; above places</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
‘Previous Traveling Experience’ and veteran travellers spend less than the new or inexperienced travellers for shopping.

6.1.6. Gender and Shopping: The variable ‘Gender’ may an influencing determinant of extent of expenditures on ‘Shopping’.

Hypothesis to be tested: The extent of expenditure incurred by the tourists on ‘Shopping’ is not significantly related to gender.

Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B \]

\[ H_1: \mu_A \neq \mu_B \]

Where,
\[
\mu = \text{Tourists mean expenditure on Shopping}
\]
\[
A = \text{Male}
\]
\[
B = \text{Female}
\]

As there are only two groups, Independent Sample T-Test conducted to verify the influence of the variable ‘Gender’ on expenditure for the factor ‘Shopping’ is rejected. The p value (0.120) is found to be more than \( \alpha \) at 0.05. Thus, population surveyed can’t be segmented on the basis of gender for extent of expenditure incurred on the factor ‘Shopping’. It can be concluded here that tourists’ expenditure on the factor ‘Shopping’ isn’t sensitive to their ‘Gender.

6.1.7. Daily Budget and Shopping: Another variable that may affect on the extent of expenditure incurred for the factor Shopping is ‘Daily Budget’.

Hypothesis to be tested: The extent of expenditure incurred on ‘Shopping’ isn’t sensitive to the variable ‘Daily budget’.

Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E = \mu_F \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \neq \mu_E \neq \mu_F \]
Where,

\[ \mu = \text{Tourists mean expenditure on Shopping} \]

A = Less than Rs.300/-
B = Between Rs.300/- and Rs.500/-
C = Between Rs.500/- and Rs.700/-
D = Between Rs.700/- and Rs.1000/-
E = Between Rs.1000/- and Rs.1500/-
F = Rs.1500/- and above

The effect of the variable 'Daily Budget' over the extent of expenditure on 'Shopping' is tested with the help of ANOVA. The finding of the test is reproduced in the Table 6.11. It shows that Null Hypothesis can be rejected as the p value (0.000) is less than \( \alpha \) at 95% confidence levels. Games-Howell multiple comparisons table shows that the difference is apparent between two groups. That is, variable 'Rs. 1500 and above' and 'Between Rs. 700 and Rs.1000'. The mean of comprehensive scores of the variable 'Rs. 700 and Rs.1000' found to be more (3.05) while the same is found less for the variable 'Rs. 1500 and above'. It can be concluded that the population can be segmented on the basis of daily budgeted.

The Null Hypothesis to be tested is produced below:

\[ H_0: \mu_A = \mu_B \]

\[ H_1: \mu_A \neq \mu_B \]
Where,

\[ \mu = \text{Tourists mean expenditure on Shopping} \]

\[ A = \text{Married} \]

\[ B = \text{Single} \]

As only two variables are to be tested, the Null hypothesis is tested with the help Levene’s Test for Equality of Variances of T-test. The test result as reproduced in the Table 6.13 shows that P value (0.003) is smaller than \( \alpha \) at 0.05 levels.

Therefore, the Null Hypothesis can be rejected.

The test result indicates that the variable ‘Marital status’ have got one-to-one different effect on the extent of expenditure incurred for the factor ‘Shopping’. The differences between variables can be known with the help of the descriptive statistics table. The data reproduced in the Table 6.14 shows that the mean of comprehensive scores for married respondents is more (2.68) than the unmarried respondents (2.36). We can arrive at the conclusion that ‘Married’ tourist spends more for the factor ‘Shopping’ than the ‘Unmarried’ tourists.

**Summary:** - Much fruitful findings could be derived from the analytical discussions presented above. It is found that the variables Origin, Previous Travelling Experience, Daily Budget and Marital Status of the respondents have got significantly different effects on the mean of frequency of spending for the factor Shopping, i.e., other clothing, cosmetic items, gifts, decorative items, toiletries, and handicrafts. However, respondents’ spending for the factor ‘Shopping’ isn’t sensitive to the variables Age, Education, Occupational Background and Gender.
6.2. Personal Expenditure:

The mean of comprehensive scores derived against this expenditure variable is 3.63. This new factor is an important uncategorized expenditure variable as its mean of comprehensive score is found to be significant one. Expenditures incurred for this factor may be affected by classification variables. The tentative effects of the classification variables across the extent of expenditure incurred are discussed in the following section:

6.2.1. Age and Personal Expenditure: Hypothesis to be tested is that the extent of respondents' spending for the factor Personal Expenditure isn't equal for all tourists irrespective of their Age groups.

Mathematically the hypothesis can be expressed as:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

Where,

\[ \mu = \text{Population mean of Personal Expenditure} \]
\[ A = \text{Less than 25 years} \]
\[ B = \text{Between 25-40 years} \]
\[ C = \text{Between 40-60 years} \]
\[ D = \text{60 years and above} \]

The Null Hypothesis is tested with the help of ANOVA. The test result as reproduced in the Table 6.15 shows that the hypothesis of equality in the mean value can be rejected at 95% confidence levels (0.013<\(\alpha\)). It implies that the extent of expenditure incurred for this factor is not equal across the age groups. The differences between age group variables could be found using the multiple comparison tables. The Bonferroni (.056>0.05) Post-hoc method of multiple comparisons shows that the difference is apparent between the variable ‘Between 25-40
years’ and ‘60 years and above’. The figures reproduced in the descriptive Table 6.16 shows that the mean scores for this factor is comparatively less in respect of the variable ‘60 years and above’. While the mean scores of the variable ‘Between 25-40 years’ is found to be more. It can be concluded here that older tourists spend less than the matured younger tourists for the factor ‘Personal Expenditure’.

6.2.2 Origin and Personal Expenditure:

Hypothesis to be tested: Origins of the tourist don’t have any influence on the extent of expenditure for the factor ‘Personal Expenditure’.

Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C \]  
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \]

Where,

\[ \mu = \text{Population mean of Personal Expenditure} \]

\[ A = \text{Regional Tourist} \]

\[ B = \text{National Tourist} \]

\[ C = \text{Foreign Tourist} \]

The ANOVA test rejects the \( H_0 \) hypothesis. The test result as reproduced in the Table 6.17 shows that the Probability value (0.019) is less than \( \alpha \) at 0.05 level. If Games-Howell method of multiple comparisons is followed then pair-wise differences can be drawn between the variables. The mean score for ‘Foreign’ tourists is found to be less than ‘Regional’ and ‘National’ tourists. The data reproduced in the descriptive Table 6.18 shows the mean scores of Regional, National and Foreign tourists as 3.86, 3.63 and 3.41 respectively. This is an interesting finding as the analysis has brought into focus a new insight that ‘Foreign’ tourists spend significantly less amount on the factor ‘Personal Expenditure’ than domestic tourists.
6.2.3 **Education and Personal Expenditure:** Hypothesis to be tested: *The amount spent by tourists for the factor ‘Personal Expenditure’ isn’t sensitive to tourist’s educational background.*

Mathematically the hypothesis can be expressed as follows:

\[
H_0: \mu_A = \mu_B = \mu_C = \mu_D
\]

\[
H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D
\]

Where,

\[
\mu = \text{Population mean of Personal Expenditure}
\]

A = Graduates

B = Post-graduates

C = Professional

D = Others

Four variables in relation to ‘Education’ are measured. These are Graduates, Post-graduates, Professional and Other. The ANOVA is used to test the Null Hypothesis. The ANOVA result reproduced in the Table-6.19 shows that probability value (0.319) is more than the significance value (0.05). Hence, the Null Hypothesis tested is found positive. Here, it can be concluded that the amount incurred for the factor Personal Expenditure is equal for all the tourists irrespective of their educational qualifications.

### Table-6.19: Education and Personal Expenditure

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between Groups</strong></td>
<td>9.840</td>
<td>3</td>
<td>3.280</td>
<td>1.173</td>
</tr>
<tr>
<td><strong>Within Groups</strong></td>
<td>1484.796</td>
<td>531</td>
<td>2.796</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1494.636</td>
<td>534</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.2.4 **Occupation and Personal Expenditure:**

Hypothesis to be tested: *Tourists’ personal expenditure doesn’t significantly differ across groups based on occupation.*

Mathematically the hypothesis can be expressed as:

\[
H_0: \mu_A = \mu_B = \mu_C = \mu_D
\]

\[
H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D
\]

Where,

\[
\mu = \text{Population mean of Personal Expenditure}
\]

A = Service

B = Professional

C = Business
The Null Hypothesis to be tested is that the extent of expenditure incurred by respondents for Personal Expenditure is equal irrespective of occupational background. The ANOVA result as reproduced in the Table 6.20 shows that the Null hypothesis can’t be rejected as the probability value (0.091) is more than $\alpha$ at 0.05 significance level. It can be concluded here that the amount spent for the factor Personal Expenditure is not sensitive to occupational background of the tourists.

6.2.5 Previous Travelling Experience and Personal Expenditure:
Hypothesis to be tested: Previous travelling experience of the tourist might have influence on the extent of Personal Expenditure.

The hypothesis tested can be expressed mathematically as follows:

$$H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E \quad (13)$$

$$H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D = \mu_E$$

Where,

$\mu$ = Population mean of Personal Expenditure

A = Up to 7 places
B = 7-15 places
C = 15-20 places
D = 20-30 places
E = 30 & above places

It is assumed that tourists' expenditure on this factor is equal irrespective of their past travelling experiences. The ANOVA test is conducted to throw light on impact of variable ‘Previous Travelling Expenditures’ on expenditure.
The test result as reproduced in the Table 6.21 shows that the Null Hypothesis can be rejected as the Probability value (0.000) is less than \( \alpha \) at 0.05. If multiple comparisons of the variables are drawn then it is found that differences exist between some groups. Thus, variable of ‘30 & above places’ have got one-to-one differences with all other variables. It is also found that tourists having past experience of travelling of ‘30 & above places’ incur less (3.03) on this factor. As against to it, tourists having past travelling experience of ‘Between 20-30 places’ incurred higher expenditure (4.32).

6.2.6 Gender and Personal Expenditure: Hypothesis to be tested: Extent of expenditure incurred on Personal expenditures is equal across male & female tourists.

Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B \]

\[ H_1: \mu_A \neq \mu_B \]

Where,

\( \mu = \) Population mean of Personal Expenditure

A = Male

B = Female

As only two variables are to be tested, the Null Hypothesis is tested by conducting Independent Sample ‘T’-test. The test result as reproduced in the Table 6.23 shows equal mean of comprehensive scores for the factor ‘Personal Expenditure’. As the \( p \) value (0.233) is more than \( \alpha \) at 0.05, the Null Hypothesis could not rejected.
Here, it can be concluded expenditure incurred on foods outside the place of stay, sightseeing, magazine and newspaper, books related to the destination, film roll and accessories, refreshments and entrance fee is equal in case of both male and female.

6.2.7 Daily Budget and Personal Expenditure: Hypothesis to be tested: The extent of 'Personal Expenditure' is not different for groups based on daily budget.

Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E = \mu_F \]
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \neq \mu_E \neq \mu_F \]

Where,

\[ \mu = \text{Population mean of Personal Expenditure} \]
\[ A = \text{Less than Rs.300/-} \]
\[ B = \text{Between Rs.300/- and Rs.500/-} \]
\[ C = \text{Between Rs.500/- and Rs.700/-} \]
\[ D = \text{Between Rs.700/- and Rs.1000/-} \]
\[ E = \text{Between Rs.1000/- and Rs.1500/-} \]
\[ F = \text{Rs.1500/- and above} \]

The hypothesis is tested by conducting ANOVA test. The test result as reproduced in the Table 6.24A, shows that the Null Hypothesis can be rejected as the p value 0.000 is less than 0.05. That means the extent of Personal Expenditure varies according to volume of daily budget. The differences can further be tested through the multiple comparisons table. If Games-Howell method is followed then it is seen that pair-wise differences exists between the variable 'Rs.300 and Rs.700' and 'Rs.1500 and above'. The descriptive Table 6.24B shows that the mean scores for the factor Personal Expenditure are not equal. The mean of comprehensive score is more (4.47) for the tourists having daily
budget ‘Between Rs.300 and Rs.700’. On the other hand, the scores is less (3.03) for the tourist having the daily budget of ‘Rs.1500 and above’. It can be concluded here that tourists with high daily budget incur comparatively less amount for the factor Personal Expenditure than others.

### 6.2.8 Marital Status and Personal Expenditure:

**Hypothesis to be tested:** Marital status of the tourists might have an influencing role in determining the extent of ‘Personal Expenditure’. The Independent Sample T-test is used to test the hypothesis of equality of population mean.

Mathematically the hypothesis can be expressed as:

\[ H_0: \mu_A = \mu_B \]
\[ H_1: \mu_A \neq \mu_B \]

Where,
\[ \mu = \text{Population mean of Personal Expenditure} \]
\[ A = \text{Married} \]
\[ B = \text{Unmarried} \]

The \( H_0 \) Hypothesis tested with the help of Independent Sample T-Test can’t be rejected (\( p=0.628 \)).

The group statistics Table 6.25 shows the means of comprehensive scores for the factor Personal Expenditure is equal for married and unmarried tourists. Thus, conclusion can be drawn that the extent of expenditure incurred by the tourists for the factor Personal expenditure is not sensitive to their marital status.

### Summary:

It is seen from the above analysis that the factor Personal Expenditure is sensitive to variables of age, origin, past travelling experience and daily budget. However, the extent of expenditure incurred on this factor is not
sensitive to the variables education, occupation, gender and marital status. It is observed that aged tourists (60 and above) and foreign tourists spend comparatively less amount for the factor Personal Expenditure. Similarly, tourists travelling ‘30 and above places’ and having daily budget of ‘Rs.1500 and above’ also incur less amount on this factor than the rests.

6.3 Travel Expenditure:
The extent of ‘Travel Expenditure’ accounts a considerable share of travel budget. The mean of comprehensive scores for this factor is computed as 3.60. The classification variables may have an influence on the extent of expenditure incurred for this factor. An analytical discussion is presented in the following section showing the effects.

6.3.1. Age and Travel Expenditure: Hypothesis to be tested: The extent of tourists’ ‘Travel Expenditure’ isn’t equal for all aged tourists.

Mathematically the hypothesis can be expressed as:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]  \hspace{1cm} (17)

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

Where,

- \( \mu \) = Population mean of Personal Expenditure
- A = Less than 25 years
- B = Between 25-40 years
- C = Between 40-60 years
- D = 60 years and above

This sensitiveness of tourists’ age towards the factor Travel Expenditure is tested by conducting ANOVA. The ANOVA test result is reproduced in the Table 6.26. The figure in the Table shows that p value is 0.000 <0.05. Therefore, the \( H_1 \)
hypothesis can be accepted. It reflects that the extent of expenditure for factor Travel Expenditure is not equal for all aged groups of tourists. If multiple comparisons are drawn by using Games-Howell method method, then it is seen that the means of comprehensive score for this factor varies. The descriptive Table 6.27 shows the population means for Travel expenditure. One can see that the mean scores for the variable ‘60 years and above’ year is high (4.79) while the score is low (3.11) for the variable ‘Less than 25 years’. It can be concluded here that older tourists (60 years and above) spends more on travelling in comparison to younger tourists (Less than 25 years).

6.3.2. Origin and Travel Expenditure: The extent of expenditure incurred by tourists on travel may depend upon their place of origin. The hypothesis can be tested to see whether the origin of the travellers has got anything to do with travel expenditure or not.

Mathematically the hypothesis can be expressed as:

\[ H_0: \mu_A = \mu_B = \mu_C \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \]

Where,

\( \mu \) = Population mean of Personal Expenditure

A = Regional Tourist

B = National Tourist

C = Foreign Tourist

The Null hypothesis assumed that variables ‘Origin’ has no influence on the extent of expenditure incurred for the factor ‘Travel Expenditure’. The Null Hypothesis is tested by ANOVA and the test result as reproduced in the Table 6.28 shows that the \( H_0 \) hypothesis of equal mean of spending for the factor Travel expenditure can be rejected at 95% confidence level. The Multiple comparisons table shows that mean score significantly varies origin-wise. It is seen from the descriptive
Table 6.29 that the mean of frequency of spending for the factor Travel Expenditure varies according to place of origin. It is seen that the means scores for the variable ‘Foreign tourists’ (4.54) more than the ‘National tourists’ (3.68) and ‘Regional tourist’ (2.39). Similarly’ the score ‘National tourists’ is more than the ‘Regional tourists’.

6.3.3 Educational Background and Travel Expenditure: Educational background of the tourists may be one of the determinants for the extent of expenditure for the factor ‘Travel Expenditure’.

The hypothesis can be expressed as the follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

Where,
\[ \mu = \text{Population mean of Personal Expenditure} \]
\[ A = \text{Graduates} \]
\[ B = \text{Post-graduates} \]
\[ C = \text{Professional} \]
\[ D = \text{Others} \]

The ANOVA test rejects the \( H_0 \) hypothesis of non-influence of the variable ‘Education’ across the expenditure for the factor ‘Travel Expenditure’ (0.000<0.05). The multiple comparison table explores of having one-to-one differences between the groups. The mean score of the variable ‘Other’ (3.25) is found significantly different from the variables ‘Post-graduates’ (4.10) & ‘Professional’ (4.12). Thus, the descriptive Table 6.31 it is seen that tourists with ‘Post-graduate’ and ‘Professional’ qualification spend more for the factor on ‘Travel’ than ‘Graduates’ and ‘Other’ categorized tourists.
Thus, it is seen that the extent of expenditure incurred for the factor ‘Travel Expenditure’ is more or less sensitive to educational background.

6.3.4 Occupation and Travel expenditure: The amount of expenditure incurred by respondents for the factor ‘Travel expenditure’ may be sensitive to tourist’s occupation. To confirm this belief the following hypothesis is to be tested.

Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]  
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

Where,

\( \mu = \) Population mean of Personal Expenditure  
\( A = \) Service  
\( B = \) Professional  
\( C = \) Business  
\( D = \) Others

The Null Hypothesis of equal mean value for the factor ‘Travel Expenditure’ is rejected by ANOVA test. This is due to the fact that the Probability value (0.043) calculated is less than significance value of 0.05. The Games-Howell Multiple comparison table shows that pair-wise differences are apparent between the variables of ‘Service’ and ‘Professional’. The descriptive Table 6.33 also reflects that the comprehensive mean score of the variable ‘Professional’ is higher than mean score of the variable ‘Service’. Thus, it can be concluded that the extent of expenditure incurred by the tourists for the factor ‘Travel Expenditure’ is sensitive to the variable ‘Occupation’.

| Descriptive Table 6.33: Occupation and Travel Expenditure |
|---|---|---|---|---|
| | N | Mean |
| Service | 181 | 3.3408 |
| Professional | 43 | 3.1113 |
| Business | 68 | 3.7800 |
| Others | 243 | 3.6031 |
| Total | 535 | 3.5952 |
6.3.5 Previous Travelling Experience and Travel Expenditure: Hypothesis
to be tested: Travel expenditure of the tourists might be sensitive towards their
Previous Travelling Experience.

The hypothesis to be tested is as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E \]  
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D = \mu_E \]

Where,

\[ \mu = \text{Population mean of Personal Expenditure} \]
\[ A = \text{Up to 7 places} \]
\[ B = \text{7-15 places} \]
\[ C = \text{15-20 places} \]
\[ D = \text{20-30 places} \]
\[ E = \text{30 & above places} \]

It is seen from the Table 6.34 that \( H_0 \) hypothesis can be rejected since P value (0.000) is less than significance value (0.05). The test result shows that the mean scores of frequency of spending are significantly different for different groups. The multiple comparisons Table 6.35 show that the comprehensive mean scores for this factor is not equal across the past travelling experience. Table 6.35 shows that respondents having past experiences of visiting ‘Up to 7 places’ incur comparatively less (2.8) amount on traveling while respondents having past experience of visiting ‘30 & above places’ spends more (4.1) for this purpose. Conclusions can be made here that extent of expenditure incurred by tourists on ‘Travel expenditure’ is sensitive to tourists past experience of travel.
6.3.6 **Gender and Travel Expenditure:** Travel expenditure of the tourists may vary gender-wise. The belief to be tested here is that *the amount of expenditure incurred on travel is sensitive to tourists’ gender.*

Mathematically the hypothesis can be expressed as mentioned below:

\[ \begin{align*}
H_0: \mu_A &= \mu_B \\
H_1: \mu_A &\neq \mu_B
\end{align*} \tag{22} \]

Where,

- \( \mu \) = Population mean of Personal Expenditure
- A = Male
- B = Female

As there are only two variables, hypothesis is to be tested by conducting Independent Sample T-Test. The Levene’s Test for Equality of Variances shows that the equality of variance can’t be assumed as the P value (0.006) is less than the significance value at 0.05 levels. However, the Hypothesis can be rejected. Group statistics table can be drawn to get deeper inside into the differences between the variables. The result of the group statistics is reproduced in the Table 6.37. It can be concluded here that the extent of expenditure incurred by the tourists for Travel Expenditure isn’t sensitive to their gender.

6.3.7 **Daily Budget and Travel Expenditure:** The relationship between the extent of expenditure incurred for the factor ‘Travel Expenditure’ and the variable ‘Daily Budget’ could be expressed with the help of hypothesis testing.

Mathematically the hypothesis can be expressed as follows:
The hypothesis is tested with the help of ANOVA and the test result as reproduced in the Table 6.38 shows that Null Hypothesis of equal means of frequency can be rejected as the p value (0.000) is less than the significance value (0.05). If multiple comparisons is followed by adopting Games-Howell Post-Hoc method, then it is seen that difference is quite significant and implicit between the variables of ‘Rs.1000 and Rs.1500’ & ‘Rs.1500 and above’ with that of variable of ‘Less than Rs.300’. Similar differences are also seen between the variables of ‘Rs.300 and Rs.500’, & ‘Rs.500 and Rs.700’, and the variable of ‘Rs.1000 and Rs.1500’. The mean score of the variable ‘Rs.1500 & above’ is found high than the mean scores of rest of the variables. It is found from the descriptive Table 6.39 that tourists of having per day per person budget of ‘Rs.1500 & above’ spend more on travel.

6.3.8 Marital Status and Travel Expenditure: Hypothesis to be tested is that expenditure incurred for the factor ‘Travel expenditure’ has no relation with the variable ‘Marital Status’.

\[
\begin{align*}
H_0: & \mu_A=\mu_B=\mu_C=\mu_D=\mu_E=\mu_F \\
H_1: & \mu_A\neq\mu_B\neq\mu_C\neq\mu_D\neq\mu_E\neq\mu_F
\end{align*}
\]
Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B \]  
\[ H_1: \mu_A \neq \mu_B \]  

Where,

\( \mu \) = Population mean of Personal Expenditure  
A = Married  
B = Unmarried

<table>
<thead>
<tr>
<th>Independent Samples Test</th>
<th>Table 6.40: Marital Status and Travel Expenditure</th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel Expenditure</td>
<td></td>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>15.441</td>
<td>.000</td>
<td>3.070</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>3.281</td>
<td>.347</td>
<td>426.347</td>
</tr>
</tbody>
</table>

The p value 0.001 of the appropriate raw (equal variance not assumed) is less than the significance level (0.05). The \( H_0 \) Hypothesis can be rejected. The Group statistics table is drawn to know the differences between variables. The data reproduced in the Table 6.41A shows that the mean scores for the factor Travel Expenditure is different for Married and Unmarried respondents. This analysis shows that mean score of married respondents is significantly higher (at \( \alpha=0.05 \)) than the mean score of unmarried respondents (3.78>3.24). Thus, conclusion can be drawn that the extent of expenditure incurred by the tourists for the factor Travel expenditure is sensitive to marital status. Married tourists spend more on travel than unmarried tourists.

<table>
<thead>
<tr>
<th>Table 6.41A: Marital status and Travel Expenditure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td>N</td>
</tr>
<tr>
<td>Married</td>
<td>356</td>
</tr>
<tr>
<td>Unmarried</td>
<td>179</td>
</tr>
</tbody>
</table>

Summary: - Very interesting outcome could be noticed from the above discussion. It is seen that expenditure on the factor Travel Expenditure is sensitive to tourists’ Age, Origin, Educational background, Previous travelling experience, Gender, Daily Budget and Marital status. Older tourists (60 and above years) incur more on travel while younger (Less than 25 years) incur the
lowest. Again, 'Foreign' tourists incur more amounts for Travel expenditure than 'Domestic' tourists. Variable 'Education' also shows that tourists having 'Post-graduate' and 'Professional' degree incur more than the rests. The occupation shows that 'Professional' and 'Businessmen' tourists spend more amounts for the factor 'Travel expenditure'. Another important observation is that tourists having more previous travelling experience incur more on this factor. Similarly, Female and married tourists incur more for the factor Travel expenditure. It is also found that high budget tourists incur more expenditure on travelling.

6.4 Local Expenditure:

This factor includes the heads of expenditure on accommodation, transportation within the destination, local textiles and foods in the place of stay. These expenditures fall under the factor 'Local Expenditure'. The mean of frequency of spending on this factor is calculated found to be 5.39. It reveals that the highest amount of money is spent by the tourists for this purpose. The ANOVA and Independent Sample T-test was conducted to get into different effects of classification variables across extent of expenditure incurred.

6.4.1 Local Expenditure and Age, Origin, Education, Occupation, Previous Traveling Experience, Gender, Marital Status:

The ANOVA test and Independent Sample T-tests are conducted to examine the significant differences in the extent of expenditure incurred for the factor Local Expenditure among the groups those are based on each one of table above variables. The test result shows that respondents can't be segmented for extent of expenditure incurred based on the variables of Age, Origin, Education, Occupation, Past travelling experience, Gender and Marital status. The probability values arrived at for the variables are shown in the Table 6.41B. The figures in the table show that the P values for the aforesaid variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Probability value</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.915</td>
<td>ANOVA</td>
<td>Could not be rejected</td>
</tr>
<tr>
<td>Origin</td>
<td>.237</td>
<td>ANOVA</td>
<td>Could not be rejected</td>
</tr>
<tr>
<td>Education</td>
<td>.241</td>
<td>ANOVA</td>
<td>Could not be rejected</td>
</tr>
<tr>
<td>Occupation</td>
<td>.281</td>
<td>ANOVA</td>
<td>Could not be rejected</td>
</tr>
<tr>
<td>Previous travelling experience</td>
<td>.601</td>
<td>ANOVA</td>
<td>Could not be rejected</td>
</tr>
<tr>
<td>Gender</td>
<td>.524</td>
<td>T-test</td>
<td>Could not be rejected</td>
</tr>
<tr>
<td>Daily budget</td>
<td>.018</td>
<td>ANOVA</td>
<td>Rejected</td>
</tr>
<tr>
<td>Marital status</td>
<td>.639</td>
<td>T-test</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
are more than the significance value of 0.05. Therefore, the Null hypothesis of equality of means can’t be rejected. However, the mean of comprehensive score is found significantly less (0.018) in respect of the variable ‘Daily Budget’. It can be concluded that the extent of expenditure incurred for the factor ‘Local expenditure’ is not sensitive to tourists’ Age, Origin, Education, Occupation, Previous traveling experience, Gender and Marital status.

6.4.2 Daily Budget and Local Expenditure: The Hypothesis to be tested is that the amount incurred for the factor ‘Local Expenditure’ doesn’t vary in accordance with ‘Daily budget’ of the respondents.

Mathematically the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E = \mu_F \quad \text{----------------------------- (25)} \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \neq \mu_E \neq \mu_F \]

\( \mu \) = Population mean of Travel Expenditure

A = Less than Rs.300/-
B = Between Rs.300/- and Rs.500/-
C = Between Rs.500/- and Rs.700/-
D = Between Rs.700/- and Rs.1000/-
E = Between Rs.1000/- and Rs.1500/-
F = Rs.1500/- and above

The Null Hypothesis of equality of expenditure for the factor ‘Local expenditure’ is tested with the help of ANOVA. The test result as reproduced in the Table 6.42 shows the P value for the factor Local Expenditure as 0.018. Since the probability value is less than \( \alpha = 0.05 \), the \( H_0 \) Hypothesis is rejected. The Test of Homogeneity of Variances signifies that Games-Howell method (0.002<0.05) of multiple comparison is to be drawn. The Post-Hoc analysis reveals

<table>
<thead>
<tr>
<th>ANOVA Table 6.42: Daily Budget and Local Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of Squares</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Between Groups</td>
</tr>
<tr>
<td>Within Groups</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test of Homogeneity of Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levene Statistic</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>3.767</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Descriptive Table 6.43: Daily budgeted and Local Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily budgeted and Local Expenditure</td>
</tr>
<tr>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Less than Rs-300</td>
</tr>
<tr>
<td>Between Rs.300 and Rs.500</td>
</tr>
<tr>
<td>Between Rs.500 and Rs.700</td>
</tr>
<tr>
<td>Between Rs.700 and Rs.1000</td>
</tr>
<tr>
<td>Between Rs.1000 and Rs.1500</td>
</tr>
<tr>
<td>Rs.1500 and above</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
is to be drawn. The Post-Hoc analysis reveals that pair-wise differences are there between the variables of ‘Rs.1000 and Rs.1500’ and ‘Rs.1500 and above’. The descriptive Table 6.43 shows that the mean of comprehensive score for the respondents having daily budget of ‘Rs.1000 and Rs.1500’ is more (5.89) than those having daily budget of ‘Rs.1500 and above’.

Summary: The respondents can’t be segmented for extent of expenditure for the factor Local expenditure on the basis of Age, Origin, Education, Occupation, Previous Traveling Experience, Gender and Marital Status. Therefore, the Null hypothesis of equality of mean could not be rejected. However, the respondents can be segmented for the extent of expenditure incurred on the basis of variable ‘Daily Budget’. Tourists having daily budget of ‘Rs. 1500 and above’ showed a high mean score. This means that only disposable income can affect the expenditure level under the heads local expenditure and other variables don’t have any impact.

6.5 Beverage:

The fifth factor extracted by data reduction process is renamed as Beverage. Two items namely, expenditure on mineral water and tobacco/liquor were clubbed into this factor. The mean score of this factor is found to be 2.89. However, further analysis could not be done on the combined factor ‘Beverages’ as factor as the Cronbach’s Alpha value (0.48) measured is found to be less than 0.50. However, to get into the deeper insight, the two heads of expenditure is tested individually by conducting ANOVA and T-test. Discussions about the findings are made in the following section.

6.5A Mineral water:

The growing health consciousness among the people has resulted in taking hygienic food and pure drinking water. People are often seen purchasing Mineral water on the way. A significant amount is also spent on purchasing mineral water at the place of visit. The amount incurred for this purpose may be sensitive to the classification variables. To know the relationship, if any, hypotheses can be tested. The test results are narrated below.
6.5A.1 Age and Mineral Water: Hypothesis to be tested: The amount spent on mineral water may not be equal for tourists of all age groups.

The Hypothesis to be tested can mathematically be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

Where,

- \( \mu \) = Population mean on Mineral Water
- A = Less than 25 years
- B = Between 25-40 years
- C = Between 40-60 years
- D = 60 years and above

The frequency of equality of means is tested with the help of ANOVA. The ANOVA test result as reproduced in the Table 6.44 shows that effect of age groups across expenditure on mineral water is positive (0.001 < 0.05). The pairwise comparisons are calculated with the help of Games-Howell Post-hoc method. It is seen from the Table 6.45 that the mean scores of the variable ‘Less than 25 years’ is significantly more than the rest of the variables. This shows that respondents of ‘Less than 25 years’ spent comparatively less for mineral water.

6.5A.2. Origin and Mineral Water:

Origin of the tourist might play an important role in determining the level of sensitivity towards the extent of expenditure incurred for mineral water.

The following hypothesis is developed to test this belief.
\[ H_0: \mu_A = \mu_B = \mu_C \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \]

Where,

- \( \mu = \text{Tourists mean expenditure on Mineral Water} \)
- \( A = \text{Regional Tourist} \)
- \( B = \text{National Tourist} \)
- \( C = \text{Foreign Tourist} \)

The ANOVA is conducted to test the hypothesis that population means bear no significant difference across the variable ‘Origin’. The test result as reproduced in the Table 6.46 shows that the hypothesis is in favour of unequal variance at 0.05 levels of significance (0.033 < 0.05). Games-Howell Post-hoc method is drawn for multiple comparisons. The descriptive Table 6.47 shows that pairwise differences exist between the ‘Foreign’ and ‘Regional’ as well as ‘National’ tourists. The mean scores of ‘Regional’ (3.94) and ‘National’ (4.47) tourists are less than the ‘Foreign’ (5.29) tourists. Therefore, it may be concluded that ‘Foreign’ tourists spend more on the item mineral water than the domestic tourists.

### 6.5A.3 Education and Mineral Water

**Hypothesis to be tested that expenditure incurred on ‘Mineral Water’ isn’t sensitive to educational background of the respondents.**

The hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

Where,
\( \mu = \) Tourists mean expenditure on Mineral Water

A = Graduates
B = Post-graduates
C = Professional
D = Others

The result of ANOVA test conducted to measure the mean score is reproduced in the Table 6.48. The figures in the table show the mean score is less than significance value of 0.05. Multiple pairwise differences can be computed by adopting Games-Howell method of Post-hoc analysis. The descriptive Table 6.49 shows that one-to-one differences exist between the few of the groups. Significant differences are seen between the variable ‘Graduate’ and ‘Post-graduate’ as well as ‘Professional’ tourists. Again there are significant differences in the mean scores between the variables of ‘Other’ with rest of the variables. The mean scores for the variable ‘Post-graduate’ is found to be highest while it is less for the variable ‘Other’. It can be concluded the extent of expenditure incurred for the item mineral water is sensitive to the variable ‘Education’.

### 6.5A.4 Occupation and Mineral Water:

Hypothesis to be tested is that variable ‘Occupation’ plays an important role in determining the extent of expenditure incurred for ‘Mineral water’.

The Hypothesis can be explained as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \]

Where,

\( \mu = \) Tourists mean expenditure on Mineral Water

A = Service
B = Professional
C = Business
D = Others

The hypothesis of the belief that the variable ‘Occupation’ plays significant role in determining the extent of expenditure incurred for Mineral water is tested with the help of ANOVA. The Table 6.50 shows that $H_0$ Hypothesis can be rejected. If multiple comparison tables are drawn by adopting the Games-Howell Post-hoc methods, then it is seen that there are differences between the tourists of having occupational background of ‘Other’ (3.95) & ‘Professional’ (5.63) as well as ‘Businessmen’ (5.04). The mean value of the variable ‘Professional’ is more than the variables ‘Other’ and ‘Businessmen’.

### Table 6.51: Test of Homogeneity of Variances

<table>
<thead>
<tr>
<th>Occupation and Mineral Water</th>
<th>N</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>181</td>
<td>4.9006</td>
</tr>
<tr>
<td>Professional</td>
<td>43</td>
<td>5.0441</td>
</tr>
<tr>
<td>Businessmen</td>
<td>68</td>
<td>5.0441</td>
</tr>
<tr>
<td>Others</td>
<td>243</td>
<td>3.9435</td>
</tr>
<tr>
<td>Total</td>
<td>535</td>
<td>4.5439</td>
</tr>
</tbody>
</table>

### 6.5A.5 Previous Travelling Experience and Mineral Water: The sensitivity of the variable ‘Previous Travelling Experience’ towards extent of expenditure on Mineral water can be tested with the help of ANOVA.

Hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E \quad \text{(30)} \]
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \neq \mu_E \]

Where,

- $\mu$ = Tourists mean expenditure on Mineral Water
- A = Up to 7 places
- B = 7-15 places
- C = 15-20 places
- D = 20-30 places
- E = 30 & above places
The ANOVA test result of equality of expenditure on Mineral water based on the variable ‘Previous Travelling Expenditure’ is found negative. The P value (0.006) is less than the significance level of 0.05. It indicates that there is relationship between variable ‘Previous Travel Experience’ and extent of expenditure incurred on ‘Mineral water.’ The homogeneity of variance shows that (0.000<0.05) the Games-Howell Post-hoc method is to be used to explore pairwise multiple comparisons. It is seen from the descriptive Table 6.53 confirmed through multiple comparison that the mean value of the variable ‘Up to 7 places’ (5.80) is significantly more than the variable of ‘20-30 places’ (3.87). Conclusion can be drawn that extent of expenditure incurred on mineral water is significantly related to the past travelling experience of the tourists. Conclusions can be drawn that lesser the experience of travel more would be the expenditure on mineral water.

6.5A.6 Gender and Mineral Water: The variable ‘Gender’ might have a role to play in determining the extent of expenditure incurred on ‘Mineral Water’. The Independent Sample T-test is conducted to test the hypothesis of equality of population mean. The Null Hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B \]

\[ H_1: \mu_A \neq \mu_B \]

Where,

\[ \mu = \text{Tourists mean expenditure on Mineral Water} \]

A = Male
B = Female
The Independent Sample T-Test result shows that the respondents can't be segmented for extent of expenditure incurred on 'Mineral Water'. The p value is found to be 0.408. Therefore, the Null Hypothesis could not be rejected at 0.05 significant levels. It can be concluded both male and female respondents incur equal amount on the mineral water in the North East India.

6.5A.7 Daily budget and Mineral Water: The variable ‘Daily Budget’ may play an effective role in the extent of expenditure incurred on Mineral water.

The hypothesis to be tested can be represented as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E = \mu_F \]  
\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \neq \mu_E \neq \mu_F \]  

Where,

\[ \mu = \text{Tourists mean expenditure on Mineral Water} \]
\[ A = \text{Less than Rs.300/-} \]
\[ B = \text{Between Rs.300/- and Rs.500/-} \]
\[ C = \text{Between Rs.500/- and Rs.700/-} \]
\[ D = \text{Between Rs.700/- and Rs.-1000/-} \]
\[ E = \text{Between Rs.1000/- and Rs.1500/-} \]
\[ F = \text{Rs.1500/- and above} \]

The belief of equal population mean for ‘Daily Budget’ is tested by conducting ANOVA. The test result shows that Null hypothesis can be rejected as the P value is found more (0.002) than \( \alpha \) at 95 percent confidence level. The ANOVA test result is reproduced in the Table 6.54. It can be concluded here that population means is different for different respondents based on frequency of visit. If multiples comparison analysis table is drawn by following the Games-Howell method then pairwise differences can be explored. It is noticed from the multiple comparison and also from Table 6.55 that the differences are in more significant between the variable
of ‘Rs.500 and Rs.700’ and ‘Rs. 1500 and above’. The populations mean scores of the variables are reproduced in the table 6.55. It is seen that respondents of having budget of ‘Rs.500 and Rs.700’ incur less while the respondents of having daily budget of ‘Rs. 1500 and above’ incurred more.

### Table 6.55: Daily budget and Mineral water

<table>
<thead>
<tr>
<th>Daily budget</th>
<th>N</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than Rs-300</td>
<td>22</td>
<td>4.5455</td>
</tr>
<tr>
<td>Between Rs.300 and Rs.500</td>
<td>53</td>
<td>4.4151</td>
</tr>
<tr>
<td>Between Rs.500 and Rs.700</td>
<td>124</td>
<td>4.6048</td>
</tr>
<tr>
<td>Between Rs.700 and Rs.1000</td>
<td>93</td>
<td>4.6129</td>
</tr>
<tr>
<td>Between Rs.1000 and Rs.1500</td>
<td>82</td>
<td>5.0122</td>
</tr>
<tr>
<td>Rs.1500 and above</td>
<td>152</td>
<td>5.1447</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>526</strong></td>
<td><strong>4.5684</strong></td>
</tr>
</tbody>
</table>

6.5A.8 Marital status and Mineral Water: The extent of expenditure incurred for the Mineral water may be influenced by the ‘Marital Status’ of the respondents.

The Null Hypothesis can be expressed as follows:

\[
H_0: \mu_A = \mu_B \tag{33}
\]

\[
H_1: \mu_A \neq \mu_B
\]

Where,

\(\mu\) = Expenditure on Mineral Water

A = Married

B = Unmarried

The Null Hypothesis is tested by conducting Independent Sample T-Test. The test result shows that the equality of mean expenditure of population can’t be rejected at 95% confidence level as the P value (0.880) more than \(\alpha\). It can be concluded the extent of expenditure incurred and marital status can’t be segmented meaningfully.

Summary: It is noticed from the above discussions that the population means of the variable ‘Mineral Water’ is found to be sensitive towards the variables of Age, Origin, Education, Occupation, Past Travel Experience and Daily budget. However, equality in the mean is found positive in case of two variables of Gender and Marital status.

6.5B.0 Tobacco/Liquor:

It is often seen that few people is habituated in taking tobacco/liquor and the intensity might increase while on tour. The amount of money spent for this purpose may be influential. The effect of classification variables across the extent of
expenditure incurred can be tested. In the following section a discussion is made to this effect.

6.5B.1 Age and Tobacco/liquor: The extent of expenditure incurred by the respondents on Tobacco/Liquor may also differ in accordance with age.

The hypothesis to be tested can be expressed as follows:

$$H_0: \mu_A = \mu_B = \mu_C = \mu_D$$

$$H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D$$

Where,

$$\mu = \text{Tourists mean expenditure on Tobacco/liquor}$$

$$A = \text{Less than 25 years}$$

$$B = \text{Between 25-40 years}$$

$$C = \text{Between 40-60 years}$$

$$D = 60 \text{ and above}$$

The ANOVA test result of equality of expenditure on tobacco/liquor irrespective of respondents’ age is rejected at 95% levels of confidence. The P value extracted by ANOVA table is less (0.018) than the significance value of 0.05. The differences in the variables can be extracted by adopting the multiple comparison analysis. As the Homogeneity of Variances is less than 0.05, Games-Howell’s method of Post-hoc analysis is to be adopted. One can see from the Post-hoc table that the mean score of the variables ‘Less than 25 years’, ‘25-40 years’ and ‘40-60 years’ are significantly different. The mean value of the variable ‘Less than 25 years’ and ‘25-40 are significantly different from the mean value of the variable ‘40-60 years’. The descriptive Table 6.57 shows the population means for expenditure on Tobacco/liquor. The analysis shows that mean scores of younger (Less than 25 years) and older (60 and above) respondents are significantly less.
6.5B.2 Origin and Tobacco/liquor: The influence of the variable ‘Origin’ across extent of expenditure incurred on Tobacco/Liquor can be tested. The hypothesis can be expressed mathematically as follows:

\[ H_0: \mu_A = \mu_B = \mu_C \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \]

Where,

\( \mu \) = Tourists mean expenditure on Tobacco/liquor

A = Regional Tourists

B = National Tourists

C = Foreign Tourists

The belief of equality of population mean is tested with the help of ANOVA. The ANOVA result as reproduced in the Table 6.58 shows that the Null Hypothesis of equality of population mean can be rejected \((0.000<0.05)\). The Post-Hoc analysis shows that population means are different for domestic and foreign tourists. One can see from the descriptive Table 6.59 that the mean scores of the ‘Foreign’ tourists are more ‘Regional’ and ‘National’ tourists. It is seen that ‘Foreign’ tourists spend more amounts on ‘Tobacco/liquor’ than the domestic tourists.

<table>
<thead>
<tr>
<th>Table-6.58: Origin and Tobacco/liquor</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Regional</td>
</tr>
<tr>
<td>National</td>
</tr>
<tr>
<td>Foreign</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

6.5B.3 Education and Tobacco/liquor: The hypothesis to be tested is that extent of expenditure incurred on Tobacco/liquor is sensitive to educational background of the respondents. The hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D \]
H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D

Where,

\mu = \text{Tourists mean expenditure on Tobacco/liquor}

A = \text{Graduates}

B = \text{Post-graduates}

C = \text{Professional}

D = \text{Others}

The ANOVA test result as reproduced in the Table 6.60 shows that the equality of variance is negative and Null hypothesis can be rejected at 95% levels of confidence (0.000<0.05). The multiple comparison indicates that there are one-to-one pairwise differences in the mean value of 'Graduate' and 'Post-graduate' tourists. The data reproduced in the descriptive Table 6.61 shows the comprehensive score of 'Graduate' tourists is less while the score is more in case of 'Post-graduate' tourists. Thus, it is seen that the amount incurred for tobacco/liquor is more for post-graduate tourists than graduate tourists.

6.5B.4 Occupation and Tobacco/liquor: The sensitiveness of the tourists’ ‘Occupation’ over the extent of expenditure incurred can be tested.

The hypothesis framed is as follows:

H_0: \mu_A = \mu_B = \mu_C = \mu_D \hspace{1cm} (37)

H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D

Where,

\mu = \text{Tourists mean expenditure on Tobacco/liquor}

A = \text{Service}
The belief of equality in expenditure on Tobacco/liquor is tested by conducting ANOVA test. The test result indicates that $H_0$ Hypothesis equality of variance can be rejected as the value (0.000) is less than $\alpha=0.05$(See Table 6.62). Thus, we can forward the opinion that the population mean is different for different tourists across the variables ‘Occupations’. To get more insight into the differences, one can follow the Games-Howell’s Post-hoc analysis of variance. The analysis shows that the mean scores of the variable ‘Other’ (1.80) is significantly less than the variables of ‘Service’, ‘Professional’ and ‘Businessmen’ tourists.

6.5B.5 Previous Travelling Experience and Tobacco/liquor: The extent of expenditure incurred by the tourists on Tobacco/liquor may be significantly related to frequency of visit.

The hypothesis is stated below:

$$H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E$$

$$H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \neq \mu_E$$

Where,

$\mu$ = Tourists mean expenditure on Tobacco/liquor

A = Up to 7 places

B = 7-15 places

C = 15-20 places

D = 20-30 places

E = 30 & above places
The ANOVA results as reproduced in the Table 6.64 indicate that the population means aren’t equal across the frequency of visit. The differences between the variable can be studied by adopting Multiple comparisons table. If, Games-Howell’s Post-Hoc method is followed then it is seen that pairwise difference is significant between the variable ‘15-20 places’ and ‘30 and above places’ (see table 6.65). The mean score is found to be significantly more (2.50) for the variable ‘30 and above places’. While the mean scores of the variable ‘15-20 places’ is found less within the group.

6.5B.6 Gender and Tobacco/liquor: Hypothesis to be tested is that the frequency spending of the respondents for the item Tobacco/liquor is sensitive to gender.

The hypothesis can be expressed as follows:

\[ H_0 : \mu_A = \mu_B \]  
\[ H_1 : \mu_A \neq \mu_B \]

Where,

\( \mu \) = Tourists mean expenditure on Tobacco/liquor  
\( A \) = Male  
\( B \) = Female

The Null hypothesis tested by conducting Independent Sample T-Test. The Levene’s test of equality of variance shows that the Null hypothesis can be rejected at 95% confidence level (See table 6.66) as P value (0.000) is less than significance value of 0.05.
It can be concluded that the extent of expenditure incurred on Tobacco/liquor is sensitive to the variable ‘Gender’. The Table 6.67 confirms that the population mean is significantly more for the variable ‘Male’ than ‘Female’. This reflects that male respondents spend more on the item Tobacco/liquor than the ‘Female’ respondents.

6.5B.7 Daily Budget and Tobacco/liquor:
Hypothesis to be tested is that per person per day expenditure of tourists may influence on the amounts paid for Tobacco/liquor.

The hypothesis can be represented as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E = \mu_F \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \neq \mu_E \neq \mu_F \]

Where,
\[ \mu = \text{Tourists mean expenditure on Tobacco/liquor} \]

A = Less than Rs.300/-
B = Between Rs.300/- and Rs.500/-
C = Between Rs.500/- and Rs.700/-
D = Between Rs.700/- and Rs./1000/-
E = Between Rs.1000/- and Rs.1500/-
F = Rs.1500/- and above

The assumption that the extent of expenditure on the item ‘Tobacco/liquor’ is equal across the Daily budget of the tourists is tested with the help of ANOVA.

The tested result as reproduced in the Table 6.68 indicates that the Null hypothesis is
proved negative (0.017<0.05). It can be concluded here that the amount of money paid for Tobacco/liquor varies with the amount of Daily Budget. The Games-Howell's Post-hoc method of analysis shows that pairwise differences are imperative between the variable ‘Rs.1000 and Rs.1500’, and ‘Rs.1500 and above’. The mean of the respondents having daily budget of ‘Rs.1000 and Rs.1500’ is found less (1.83) than those having daily budget of ‘Rs.1500 and above’ (2.68). However, no significant difference could be seen between the rests of the variables. It can be concluded that respondents having high budget incurred more amounts on Tobacco/liquor.

6.5B.8 Marital status and Tobacco/liquor: Significant relationship may exist between the variable ‘Marital status’ and the extent of expenditure incurred on the item Tobacco/liquor.

Mathematically the Hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B \]

\[ H_1: \mu_A \neq \mu_B \]

Where,

\[ \mu = \text{Tourists mean expenditure on Tobacco/liquor} \]

A = Married

B = Unmarried

The \( H_0 \) Hypothesis of equality of variances is tested with the help of Independent Sample T-Test. The test result shows that the Null hypothesis can’t be rejected. The population mean as shown by the Levene’s Test for Equality of Variances is 0.229. It can be concluded that the amount spent for Tobacco/liquor is not influenced by the Marital status of tourists.

Summary: It is noticed from the above discussions that the means scores for Tobacco/liquor is related to the variables of Age, Origin, Education, Occupation,
Past travelling experience, Daily budget and Gender. However, the assumption of equality of mean is found positive for the groups based on the variable Marital Status. The variable Age shows that older tourists spend less than the younger tourists for Tobacco/liquor. Foreign tourists on the other hand, spend more than the domestic tourists for the same. Again the extent of expenditure incurred is also influenced by the daily budget. Tourists having more amount of Daily budget incur more for this item. The analysis also shows that male tourists spend more on this item than the Female tourists.

6.6: Purposes of travel and extent of expenditure: It will be worthwhile to draw a comparative analysis to examine the extent to which the travel purposes affect the volume of tourists’ expenditure paid for different purposes. Tourists travel the destinations for different purposes and on the basis of their purpose of travel tourists are commonly classified into different categories such as Eco-tourists, Leisure tourists, Pilgrimage tourists, Business tourists etc. So, an analysis of expenditure on the basis of purposes of travel will provide a deeper insight into the extent of expenditure incurred by a particular category of tourists. An analysis is made below to examine the hypotheses.

**Hypothesis Testing:** The following hypothesis is adopted to measure the extent of expenditure incurred by tourist on the factor Shopping, Personal Expenditure, Travel Expenditure, Local Expenditure and the heads of expenditure of Mineral Water and Tobacco/Liquor..

It is supposed that the extent of expenditure incurred on all factors is equal for all types of tourists irrespective of their purposes of travel. Mathematically, the hypothesis can be expressed as follows:

\[ H_0: \mu_A = \mu_B = \mu_C = \mu_D = \mu_E = \mu_F = \mu_G = \mu_H = \mu_I = \mu_J = \mu_K \]

\[ H_1: \mu_A \neq \mu_B \neq \mu_C \neq \mu_D \neq \mu_E \neq \mu_F \neq \mu_G \neq \mu_H \neq \mu_I \neq \mu_J \neq \mu_K \]

Where,

\( \mu = \) Tourists mean of expenditure on Shopping, Personal Expenditure, Travel Expenditure, Local Expenditure and the heads of expenditure of Mineral Water and Tobacco/Liquor

\( A = \) To have fun/Joy
B= Visiting relatives
C=Pilgrimage
D=Wanted to see Wild life of this area
E= Wanted to have adventure
F= Just holidaying during vacation
G= Come for business work
H= Wanted to see natural beauty
I= Pursuing special interest (like hobbies, research etc)
J= Experience local people and culture
K= Other reason.

6.1 Purposes of Travel and Shopping: The relationship between the extent of expenditure incurred for the items falling under the factor Shopping and purposes of travel is tested by adopting one-way ANOVA and multiple comparisons table. The ANOVA test result shows that the $H_0$ Hypothesis of equality of variances can be rejected at 95% confidence level as the Probability value (0.002) is less than significance value of 0.05 (see table 6.70). To extract the purpose-wise variable(s) resulting higher expenditure on Shopping, we can adopt Games-Howell’s Post-hoc multiple comparisons table as the value (0.000) extracted by Test of Homogeneity of variances is less than 0.05. The Post-Hoc table however, shows no significant differences in the values of different variables. But the analysis of figures appearing in the descriptive Table 6.71 shows that two variables are having comparatively high mean value within the group. These are the respondents who came with an object of ‘Just holidaying during vacation’ (F) and those whose basic reason of visit is ‘Experience local people and culture’ (J). The rest of the variables in the group show almost equal mean values. This indicates that tourists who come to Northeast India with basic motive of ‘Holidaying’ and to
‘Experience local people and culture’ incurs maximum amount for the items underlying the factors Shopping.

### 6.2 Purposes of Travel and Personal Expenditure

The relationship between the purposes of Travel and the factor Personal Expenditure is also tested by adopting one-way ANOVA. It is seen from the Table 6.72 that the assumption of equality of expenditure on the factor Personal Expenditure across all the purpose of travel can be rejected as the P value (0.000) is less than α at 95% confidence level. This is an indication that the purposes of Travel have influence on the extent of expenditure incurred on the factor Personal Expenditure. Now, to extract the variables resulting high expenditure, we can adopt the multiple comparison tables. The value of 0.000 extracted by Levene’s Test of Homogeneity of Variances show that Games-Howell’s Post-hoc table need to be followed. It is seen that significant differences exist between the variable of ‘C’ (Pilgrimage) and variable ‘D’ (To see wild life of the area) and between variable ‘C’ and variable ‘E’ (Wanted to have adventure). Differences are also found between the tourists those came with the purpose specified in ‘I’ (Pursuing special interest) and variables A,B,C,D,E,F,H. Similar differences are also very indicative between the variables of K (Other expenditure) and A,B,C,D,E,F,H.

The table 6.73 shows high mean value against the statement E (mean 4.6) and D (mean 4.0). This means that those tourists who came with the motives of ‘To have adventure’ and ‘To see wild-life of the area’ (D) incurred more on the factor Personal Expenditure than the others. On the other hand, the tourists having motives of ‘Special interest’ (I) and ‘Other reason’ (K) incurred the least on this factor.
6.3 Purposes of Travel and Travel Expenditure: The extent of expenditure incurred by individual tourists for the heads of statement underlying the factor ‘Travel Expenditure’ may vary according to purposes of travel of tourists. This probability can be tested with the help one-way ANOVA.

The Hypothesis tested with the help of one-way ANOVA shows that H₀ Hypothesis of equality of expenditure is rejected as the p value is less than the significance value (0.000<0.05). This means that the extent of expenditure is not equal across the various purposes. To get acquainted with detailed information about the differences between the variables, the Games-Howell Post-hoc multiple comparison table is adopted. It shows that differences exist between the variables of ‘A’ and D,F,K; between B and D,F,I,K; between the variables of C and D; between D and A,B,C,K; between the variable E and K and also between the variable of F and A,B. It is also conceived from the figures appearing in the Table 6.75 that the mean values for three variables are comparatively high. It authenticates the belief that expenditure incurred for the factor Travel Expenditure is more for few variables. These are ‘Just holidaying during vacation’ (4.59), ‘Wanted to see wild-life’ of this area (4.30) and ‘Experience local people and local culture’ (4.22). On the other side, mean value is found lowest for the variable ‘Other purpose’ (1.58).

6.4 Purposes of Travel and Local Expenditure: The Extent of expenditure incurred by the tourists for the various reasons included within the ambit of factor Local Expenditure is tested with the help of one-way ANOVA. The test result shows that the Null Hypothesis can be rejected at 95% confidence level as the p value of 0.017 is less than the significance.
value of 0.05. The Levene’s Test of Homogeneity of Variances prescribes the follow-up of the Games-Howell’s methods of multiple comparisons table (as .010<0.05).

It is found from the same table that there are no significant differences between the variables except between the variables of B (Visiting relatives) and G (Come for business work). The most interesting outcome of analysis of this section is that the mean values of all the variables are found to be relatively higher. Highest mean value (6.51) is extracted against the tourists who came for ‘business work’ (G). It implies that business tourists incur relatively more expenditure for the purposes underlying the factor Personal Expenditure while those came for visiting relatives incurred the less for same heads. It is also seen that the extent of expenditure incurred by the business tourists on this factor is followed by those who came to Northeast India for experiencing adventure. The mean value extracted against this section of the tourists is 6.41. In a nutshell, it can be concluded here that tourists of all categories except those visiting the relatives incurred relatively higher amount on this factor.

6.5 Purposes of Travel and Mineral water: Hypothesis to be tested is that purposes of travel of tourists might have influence on the extent of expenditure incurred on mineral water.

The ANOVA test result shows (see Table 6.78) that the Null Hypothesis of equality in the expenditure can be rejected (P<0.05). It proves that purpose-wise tourists can be segmented for extent of expenditure incurred on Mineral water. Now, to unveil the nature of tourists between whom significant differences exist in the extent of expenditure incurred, the Post-Hoc multiple comparison table is adopted. The Games-Howell’s multiple comparison table shows that the difference is significant between pilgrimage tourists (C) and those came to see wild-life (D). The descriptive table 6.79 shows the mean value of the

| Table-6.77: Purposes of Travel and Local Expenditure |
|-----------------|-----------------|
| N   | Mean  |
| A   | 136  | 5.3605 |
| B   | 26   | 2.0027 |
| C   | 64   | 4.9556 |
| D   | 141  | 5.4146 |
| E   | 22   |       |
| F   | 10   | 5.4525 |
| G   | 13   | 8.5869 |
| H   | 58   | 5.6135 |
| I   | 29   | 5.1721 |
| J   | 25   | 4.8571 |
| K   | 11   | 4.9440 |
| Total| 535  | 5.3756 |

| Table-6.78: Purpose of Travel and Mineral water |
|-----------------|-----------------|
| Sum of Squares | df  | Mean Square | F   | Sig. |
| Between Groups | 249.118 | 10 | 24.912 | 2.544 | .005 |
| Within Groups  | 5131.600 | 524 | 9.793 |
| Total          | 5380.718 | 534 |

<table>
<thead>
<tr>
<th>Test of Homogeneity of Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levene Statistic</td>
</tr>
<tr>
<td>3.237</td>
</tr>
</tbody>
</table>

| Table-6.79: Purposes of Travel and Mineral water |
|-----------------|-----------------|
| N   | Mean  |
| A   | 136  | 4.2868 |
| B   | 26   | 3.844 |
| C   | 64   | 3.8125 |
| D   | 141  | 3.439 |
| E   | 22   | 4.8182 |
| F   | 10   | 5.3571 |
| G   | 13   | 4.8462 |
| H   | 58   | 4.0000 |
| I   | 29   | 4.5862 |
| J   | 25   | 4.4248 |
| K   | 11   | 3.5000 |
| Total| 535  | 4.5439 |
pilgrimage tourists for expenses incurred on Mineral water as 3.81 while the mean value of the tourists specifying reason of travel as ‘to see wild-life’ is found to be 5.44. But the differences in the mean values between rests of the variable are not significant (except between the variables of C and D). It can be finally concluded that the expenditure incurred by tourists in Northeast India on Mineral water is significant and the extent is almost equal for all types of tourists.

6.6: Purpose of Travel and Tobacco/liquor: The sensitiveness of tourists’ expenditure incurred towards the purposes of travel is tested by conducting ANOVA test. The ANOVA test result is reproduced in the Table 6.80. The figure in the Table shows that p value is 0.000 < 0.05. Therefore, the H₁ hypothesis can be accepted. It reflects the belief that the extent of expenditure incurred on tobacco/liquor is not equal for all type of tourists if they are segmented on the basis of purposes of travel. If multiple comparisons are drawn by using Games-Howell method then it is seen that the means of comprehensive score varies from tourists to tourists. The descriptive Table 6.81 shows the population means. It is found from the Post-Hoc analysis that differences are apparent between the variables of A and the variable E & I; between the variable B and D; between C and D; between D and E & I and between the variables of E and I. The analysis of mean values show that the variable I (Pursuing special interest like studies, research etc) scored the highest (3.0) values while the variable E (wanted to have adventure) accounted the lowest mean value in the group. This signifies that those who came to ‘experience adventure’ incurred comparatively less amount on Tobacco/liquor while those comes for ‘studies or research’ incur the highest amount on this head of expenditure.

Summary: It is seen from the above analyses that the extent of expenditure across the different purposes of travel is not equal. Significant differences exist in the extent of expenditure incurred for different factors. Respondents who visited
the destinations of Northeast India with basic motives of 'Holidaying' and 'To experience local people and culture' incur maximum amount for the items underlying the factors Shopping. Another observation of the analysis is that tourists who came with the motives of 'To have adventure' and 'To see wild-life of the area' incurred more on the factor Personal Expenditure. But the tourists who had visited with the prime motive of 'Special interest' and 'Other reason' incurred the least on this factor. The next important finding of the analysis is that tourist can be well-segmented on the basis of purpose of travel and expenditure incurred on the factor Travel Expenditure. Those who came for the purposes of 'Just holidaying during vacation', 'Wanted to see wild-life of this area' and 'Experience local people and local culture' incurred relatively more amount on this factor. On the other side, the expenditure is lowest for the tourists whose basic reason of visit was stated to be 'Other purpose' (1.58). It is also seen from the above discussion that those who come for 'business work' incur more amount of money for the heads of expenditure falling within the factor Personal Expenditure. But the expenditure incurred is least for the tourists who came to visit the relatives. It may also be mentioned that respondents can be segmented for the extent of expenditure incurred on the item Tobacco/liquor and mineral water. 'Pilgrim' tourists incurred more expenditure on mineral water while those who came 'to pursue special interest' incurred more on the item tobacco/liquor.