CHAPTER 5: DATA ANALYSIS

5.0 Introduction

In the previous chapter, the research methodology was presented along with a summary of data analysis techniques that is to be performed in this chapter. Accordingly, the content of this chapter looks into the analyses performed on the data and the consecutive results. The results are presented in sequence of performance of the tests. The initial analysis is the descriptive analysis of the demographics and some other factors asked in the questionnaire. This section is followed by preliminary analysis such as normality, reliability and factor analysis. Using the results of factor analysis and the reliability test, factors are rearranged to pave the way for testing the hypotheses. By means of Pearson Correlation measure, the relationship among variables is tested in order to accept or reject the hypotheses from chapter three. The final section, presents the results of Multivariate analysis that is used to observe the predictive ability of the set of independent variables on the dependent variables.

5.1 Descriptive Analysis

The online questionnaire was distributed among US (New York and San Francisco), Iran (Tehran) and Malaysian residents (Klang Valley). Three hundred and forty (340) responses were collected through online questionnaire; out of which only seven were unusable and therefore removed from the sample. In total, three hundred and thirty three (333) usable responses were collected and coded in the SPSS analysis system. There were no missing values coded when the data was typed in the SPSS, except for ethnicity.

The following section presents the demographic characteristics of the study sample. (refer to Appendix B)

5.1.1 Gender

Majority of respondents were female with 63.4 percent, followed by 36.6 percent of male participants. The following table summarizes frequency and relative percentage of gender among respondents.

Country of residence	Female		Male	
	Frequency	Percent	Frequency	Percent
Malaysia	151	63.8	86	36.2
United States	26	61.9	16	38.1
Iran	34	62.9	20	37.1

Table 5.1 Summary of frequency and percentage of gender of respondents

However considering the previous literature, the gender is not expected to have significant influence on the responses.

5.1.2 Age

As can be seen in table 5.2 the majority, 36 percent of respondents, fall in the age group of 23-30 years. The second major group consists of 18-22 years olds who contribute 30 percent of the study sample. Other age groups including 31-40, 41-50, and 51-60 contribute 19.5, 7.5 and 4.5 percent of responses to this study. In this sample, only four persons above 60 years have responded to the questionnaire, which makes up 1.2 percent of the respondents.

One possible explanation for great number of young respondents is that the questionnaires were circulated through email and basically targeted students of universities.

Age	Frequency	Percent	Valid Percent	Cumulative Percent
Below 18	0	0	0	0
18-22	101	30.3	30.3	30.3
23-30	123	36.9	36.9	67.3
31-40	65	19.5	19.5	86.8
41-50	25	7.5	7.5	94.3
51-60	15	4.5	4.5	98.8
61and above	4	1.2	1.2	100.0
Total	333	100.0	100.0	

Table 5.2 Age profile of respondents

5.1.3 Marital Status

In terms of marital status, majority of respondents are single with 69 percent. Married respondents only form 29 percent of the sample group, followed by only 1 percent divorced or widowed. This could be easily explained by huge number of young participants aged 18 to 30 years. Since the marriage age for male is 30 and for female is 27 years old, it was expected that majority of participants fall in the singles group.

5.1.4 Country of Residence

Although personality characteristics might not significantly differ among different citizens, the researcher believes country of residence can impact people' attitude and behavior in terms of spreading word of mouth. Therefore, respondents have been asked about their citizenship and country of residence in order to search for any possible patterns in people' attitude and behavior.

Majority of respondents were from Malaysia with 237 (71.2 percent), followed by Iran residents with 54 (16.2 percent) participants. Forty two (42) United Stated residents also contribute to 12.6 percent of responses.

5.1.5 Ethnicity

Although the questionnaires were distributed only in Malaysia, United States and Iran, there are different ethnicity groups involved in the sample. Malaysia is a country with three main ethnic groups, including Malay, Chinese and Indian. In addition, some respondents in Malaysia are expats who live in this country. Similarly, US residents are composed of different ethnicities who live in the country, either as a citizen or migrant. Therefore, we expected to have variety of ethnicity among the participants. Out of 333 respondents, 15 were not confident to reveal their ethnicity, therefore 4.5 percent is missing. Table 5.3 summarizes respondents' ethnicity frequency and percentage.

Ethnicity	Frequency	Percent	Valid Percent
Middle Eastern	109	32.7	34.3
Malay	109	32.7	34.3
Chinese	49	14.7	15.4
White / Caucasian	26	7.8	8.2
Indian	10	3.0	3.1
Black	7	2.1	2.2
Other	8	2.4	2.5
Missing	15	4.5	-
Total	333	100.0	100.0

Table 5.3 Ethnicity profile of respondents

5.1.6 Education Level

In terms of highest education level, it can be concluded that majority of respondents hold a bachelor degree and post graduate degree. Both together they account for almost eighty (80) percent of the sample. Only twenty (20) percent of the participants hold SPM/STPM degree or a diploma. The following table summarizes highest education level of the respondents.

Education Level	Frequency	Percent	Valid Percent
SPM / STPM	35	10.5	10.5
Certificate / Diploma	31	9.3	9.3
Bachelor Degree	154	46.2	46.2
Post graduate degree	113	33.9	33.9
Total	333	100.0	100.0

Table 5.4 Respondents' education profile

5.1.7 Occupation

Participants were also asked for their occupation in order to build a complete profile for them. Majority of them (61.9 percent) fall in the 'student' group as a result of young age of majority of respondents. This was also expected, since one of the methods used for data collection was distribution of questionnaires in universities' online networks. The reason is that students are expected to spend more time on the internet, have more free time to respond to a survey (compared to other occupation), and have more interest in participating in an academic research.

The second major group consists of managers and professionals who account for 15 percent of responses. This trend is followed by 'self-employed' and 'supervisory / technical' jobs who contribute 6.3 and 3.6 percent respectively. The rest are either housewife or work in 'Clerical/sales/production' field or perform in 'national services'. There are also two percent of unemployed respondents. Table 5.5 summarizes participants' occupation.

Occupation	Frequency	Percent	Valid Percent
Managerial / Professional	51	15.3	15.3
Supervisory / Technical	12	3.6	3.6
Clerical / Sales / Production	10	3.0	3.0
Self-employed	21	6.3	6.3
Housewife	11	3.3	3.3
Student	206	61.9	61.9
National Service	4	1.2	1.2
Unemployed	7	2.1	2.1
Other	11	3.3	3.3
Total	333	100.0	100.0

Table 5.5 Respondents' occupation profile

5.1.8 Internet Usage

Respondents were also asked three questions about their internet usage, frequency of checking emails and social networking activity. Since the internet familiarity and usage is perceived to have effect on at least consumer behavior in online environments, a profile of internet usage was built in order to examine possible effects. Although the relationship will be examined in the correlation tests, in this section the descriptive analysis of internet usage is presented.

Respondents were asked about 'browsing internet quite often' and the majority (74 percent) agreed to the statement, 17 percent were neutral and only 8 percent disagreed with the statement. This shows that the respondents browse internet very often. They were also asked if they check their emails regularly and surprisingly percentage of angriness to this statement was higher, around 86 percent. Ten (10) percent of respondents were neutral and only 4 participants do not check their emails regularly. As expected, number of active social networkers was lower than the internet users. Almost 36 percent of respondents agree to the statement of 'being active social networker' and the rest are neutral or non-social networkers.

5.2 Preliminary Analysis

5.2.1 Data Screening

Before any statistical analysis, it is important to screen the data for any obvious outliers or missing values. In this data set no outliers or missing data was observed. Moreover, the negatively worded items in the questionnaire needed to be reversed. Therefore, the following statements were transformed:

Item Code	Statement	Reverse effect on variable
SC05	I will not buy anything that my friends dislike.	Self-Confidence
AS04	It is difficult to express my complaint.	Assertiveness
AS05	I usually keep my opinion to myself.	Assertiveness
AO02	I don't like to write an online review because it takes so much time/effort.	Attitude towards online WOM
AO03	Online websites are too complicated for me to write a review about a travel service.	Attitude towards online WOM

5.2.2 Normality Test of Items

There are a number of tests to be performed to check whether the data is normally distributed. It is important for the data to be normally distributed in order to carry out tests such as Pearson correlation and multiple regressions. The skewed value provides an indication of the symmetry of distribution; whereas the kurtosis provides information about the 'peakedness' of the distribution (Sekaran, 2003). In Table 5.6, the mean, standard deviation, skewness and kurtosis of each item in the questionnaire are presented. All items complied with the skewed and kurtosis level, by having values below 2 and 3, indicating that all items within the normality curve.

Variable	Item	Mean	Standard Deviation	Skewness	Kurtosis
Self-confidence	SC01	3.83	.902	-.660	.467
	SC02	4.12	.829	-.859	.561
	SC03	3.56	.938	-.609	.414
	SC04	3.74	.957	-.626	.021
	SC05	3.44	1.084	-.391	-.521
	SC06	3.56	.854	-.261	.143
Assertiveness	AS01	4.10	.800	-.896	-.896
	AS02	3.66	.886	-.308	-.224
	AS03	3.45	.833	-.260	.450
	AS04	3.25	1.062	-.162	-.725
	AS05	3.14	1.089	-.136	-.927
Conservativeness	CV01	3.71	.912	-.749	.386
	CV02	2.94	.934	-.075	-.115
	CV03	2.99	1.012	-.116	-.635
	CV04	3.30	.911	-.335	-.073
	CV05	2.65	1.047	.290	-.565
Risk Taking Attitude	RT01	3.55	.919	-.627	.341
	RT02	3.47	.907	-.399	-.285
	RT03	3.74	.873	-.571	-.001
	RT04	3.54	1.019	-.574	-.264
	RT05	3.43	.944	-.528	.050
Sense of Justice	SJ01	3.34	1.007	-.293	-.283
	SJ02	3.35	1.003	-.270	-.428
	SJ03	4.02	.823	-.594	.059
	SJ04	3.96	.790	-.588	.538
	SJ05	4.02	.862	-.920	1.026
Attitude towards Conventional WOM	AC01	4.35	.821	-1.485	2.527
	AC02	4.35	.706	-1.069	1.740
	AC03	4.29	.837	-1.299	1.853
	AC04	3.86	.779	-.637	.745
	AC05	4.32	.711	-.895	.757
Attitude towards Online WOM	AO01	3.92	.760	-.480	.346
	AO02	2.96	.966	.092	-.362
	AO03	3.25	1.022	-.079	-.469
	AO04	4.30	.787	-1.101	1.372
	AO05	3.54	.866	-.336	.061
Behavior of Conventional WOM	BC01	4.33	.753	-1.105	1.360
	BC02	4.32	.711	-.744	.053
	BC03	4.31	.684	-.660	.007
Behavior of Online WOM	BO01	4.25	.795	-.941	.890
	BO02	3.38	.988	-.319	-.160
	BO03	3.17	.957	-.230	-.067

Table 5.6 Mean, Standard Deviation, Skewness and Kurtosis

5.2.3 Reliability and Validity Test

As part of initial analysis, reliability test is performed to confirm the internal consistency of the items. A measure is reliable when the measurement of a concept is stable and consistent. For this purpose, we used Interim Consistency Reliability which tests the consistency of respondents' answers to all the items in a measure (Sekaran, 2003). The most common test is Cronbach's coefficient alpha that is used for multipoint-scaled items. Chronbach's alpha of above 0.7 shows that items are measuring the same underlying construct.

In addition, validity test is done to ensure that items are measuring what they are supposed to measure. For this purpose we refer to the Corrected Item- Total Correlation. This statistic indicates the degree to which each item correlated with the total score. Low values (less than 0.3) of Corrected Item-Total Correlation indicate that the item is measuring something different from the scale as a whole (Sekaran, 2003). Results of the initial validity test are presented in Table 5.7.

As illustrated in this table, Chronbach's Alpha coefficient of four items including Risk Taking, Sense of Justice, Attitude towards Conventional WOM and Behaviour of Conventional WOM are above 0.7. Assertiveness and Behavior of Online WOM have Chronbach's alpha of above 0.6 which although is below 0.7, however can be acceptable. According to Nunnaly (1978) it is common practice to consider 0.60 an acceptable value of Chronbach's alpha in management science research.

In addition, variables including Self confidence, Conservativeness and Attitude towards Online WOM have coefficient of below 0.6 which shows relatively low reliability of the measures. However, using the information generated by the reliability test, it is possible to increase the index by deleting some items which are presented in last column of Table 5.7.

Variable	Item	Corrected Item-Total Correlation	Cronbach's Alpha Coefficient	Cronbach's Alpha if item deleted
Self-confidence	SC01	.428	.562	.596
	SC02	.447		
	SC03	.524		
	SC04*	.292		
	SC05	.454		
	SC06*	.292		
Conservativeness	CV01*	.155	.581	.616
	CV02	.370		
	CV03	.479		
	CV04	.574		
	CV05	.528		
Assertiveness	AS01	.402	.602	-
	AS02	.421		
	AS03	.402		
	AS04	.517		
	AS05	.486		
Risk Taking Attitude	RT01	.509	.775	-
	RT02	.528		
	RT03	.559		
	RT04	.536		
	RT05	.609		
Sense of Justice	SJ01	.525	.726	-
	SJ02	.515		
	SJ03	.507		
	SJ04	.497		
	SJ05	.402		
Attitude towards Conventional WOM	AC01	.576	.796	-
	AC02	.635		
	AC03	.612		
	AC04	.443		
	AC05	.637		
Attitude towards Online WOM	AO01	.445	.471	0.512
	AO02	.438		
	AO03	.327		
	AO04	.305		
	AO05*	.156		
Behavior of Conventional WOM	BC01	.560	.742	-
	BC02	.637		
	BC03	.512		
Behavior of Online WOM	BO01	.510	.601	-
	BO02	.560		
	BO03	.486		

*Items to be deleted to improve reliability

Table 5.7 Corrected Item- Total Correlation (validity) and Chronbach's Alpha Coefficient (reliability)

There are possible explanations for relatively low reliability of the variables. First of all, although the study uses an established set of items for 'Self-Confidence' and 'Conservativeness', this study is executed in an online environment which is characterized by low control over the respondents. Moreover, the 'cross cultural' nature of this study complicates the situation since a well established set of items might not be suitable for some countries with different cultures. In addition, 'Attitude towards Online WOM' was established for the first time by the researcher. Although in the pilot study it demonstrated a higher reliability, in the large sample size this criteria was reduced. Similar explanation could be applied to this variable as well.

5.2.4 Normality Test of Variables

As a result of changes to the variable items, there is need for testing normality of the data. Therefore, this time normality test of each computed variable is tested in order to assure of prerequisites of the further analyses. For this purpose, Skewness, Kurtosis, Histogram and Q-Q Plot methods are utilized. Normality Histograms and Q-Q Plots of each variable are presented in Appendix C. The following table summarizes Mean, Standard Deviation, Skewness and Kurtosis of each variable. In this study, results of the tests confirm the assumption of normality.

Variable	Mean	Standard Deviation	Skewness	Kurtosis
Self Confidence	3.74	0.457	0.061	-0.256
Conservativeness	2.96	0.666	0.070	0.301
Assertiveness	3.51	0.508	0.053	-0.297
Risk Taking	3.60	0.603	0.120	-0.366
Sense of Justice	3.74	0.609	0.119	-0.309
Attitude towards Conventional WOM	4.23	0.114	-0.384	-0.644
Attitude towards Online WOM	3.61	0.540	0.239	-0.358
Behavior of Conventional WOM	1.27	0.215	0.106	-0.997
Behavior of Online WOM	3.61	0.535	0.007	-0.803

Table 5.8 Normality Test Results

5.3 Correlation Analysis

Testing hypotheses of "association" and causality is possible through using correlation analysis. A measure of association helps to understand the relationship between variables. This measure ranges between –1 and 1. Where the sign of the integer represents the "direction" of correlation (negative or positive relationships) and the distance away from 0 represents the degree or extent of correlation – the farther the number away from 0, the higher or "more perfect" the relationship is between the IV and DV (Sekaran, 2003). Using Bivariate method, a table of correlation is generated which can help us testing the hypotheses of this study (see Table 5.9).

Correlations

	Self Confidence	Conserv-ativeness	Assertive-ness	Risk Taking	Sense of Justice	Attitude Conventi on WOM	Attitude Online WOM	Behavior Conventi on WOM	Behavior Online WOM
Self Confidence	1								
Conservativeness	-.258**	1							
Assertiveness	.233**	-.401**	1						
Risk Taking	.163**	-.031	.201**	1					
Sense of Justice	.376**	-.184**	.333**	.256**	1				
Attitude Conventional WOM	**.138***	**-.032**	**.149****	**.105**	**.347****	1			
Attitude Online WOM	**.105**	**-.151****	**.138***	**.169****	**.157****	.296**	1		
Behavior Conventional WOM	.151**	.025	.166**	.202**	.349**	**.619****	.233**	1	
Behavior Online WOM	.063	.012	.126*	.118*	.334**	.164**	**.170****	.330**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 5.9 Correlations Matrix

In this section, we first test the correlations among variables that were hypothesized in chapter three. Then, only those variables that have significant correlations will be tested in regression analysis as the final test of hypotheses. Online environment is analyzed first, followed by the offline (conventional method of) word of mouth.

Self Confidence and Attitude towards Online WOM

$H_0$1a. There is no relationship between consumer's Self Confidence and their Attitude towards Online Word of Mouth.

The null hypothesis is accepted due to the insignificant relationship between self confidence and consumers' attitude towards Online word of mouth.

Conservativeness and Attitude towards Online WOM

$H_0$1b. There is no relationship between Conservatism and customer's Attitude towards online Word of Mouth.

As presented in correlations table, there is statistically negaative significant relationship between conservativeness and attitude towards online word of mouth. Therefore the null hypothesis is rejected.

Assertiveness and Attitude towards Online WOM

$H_0$1c. There is no relationship between customer's Assertiveness and their Attitude towards Online Word of Mouth.

Correlation analysis indicates a significant relationship between assertiveness and attitude towards online word of mouth at 0.05 level. Therefore the null hypothesis is rejected and the alternative hypothesis is supported.

Risk Taking and Attitude towards Online WOM

$H_0$1d. There is no relationship between consumers' Risk Taking Attitude and their Attitude towards Online Word of Mouth.

As presented in Correlations table there is significant relationship between consumer's risk taking attitude and their attitude towards online word of mouth. This relationship is positive directed and is significant at 0.01 level. Therefore the null hypothesis is rejected.

Sense of Justice and Attitude towards Online WOM

$H_0$1e. There is no relationship between consumers' Sense of Justice and their Attitude towards Online Word of Mouth.

The correlations matrix reveals a positive significant relationship between Consumers' sense of justice and their attitude towards online word of mouth. Hence, the null hypothesis is rejected.

Attitude and Behavior of Word of Mouth

$H_0$3. There is no relationship between Attitude towards Online Word of Mouth and consumers' Actual Behavior of spreading online word of mouth.

The null hypothesis is rejected due to the statistically significant relationship between Attitude towards online word of mouth and actual behavior of spreading online word of mouth. This relationship is positive and significant at 0.01 level.

Self Confidence and Attitude towards Conventional WOM

$H_0$2a. There is no relationship between Self Confidence of customer and their Attitude towards Conventional Word of Mouth.

According to the correlations table, there is a significant relationship between the two variables at significance level of 0.05. This relationship is positively directed.

Conservativeness and Attitude towards Conventional WOM

$H_0$2b. There is no relationship between Conservativeness and customer's Attitude towards Word of Mouth.

Although there is a negative relationship between conservativeness and customer's attitude towards WOM, this relation is not statistically significant. Therefore the null hypothesis is accepted.

Assertiveness and Attitude towards Conventional WOM

$H_0$2c. There is no relationship between customer's Assertiveness and their Attitude towards Conventional Word of Mouth.

As presented in table 5.9, there is a significant relationship between the two variables at the significance level of 0.01. Therefore the null hypothesis is rejected and there is statistical support for the alternative hypothesis.

Risk Taking Attitude and Attitude towards Conventional WOM

$H_0$2d. There is no relationship between consumers' Risk Taking Attitude and their Attitude towards Conventional Word of Mouth.

The correlations matrix does not disclose any significant correlation between Consumers' risk taking attitude and their attitude towards conventional WOM. Consequently the null hypothesis is supported.

Sense of Justice and Attitude towards Conventional WOM

$H_0$2e. There is no relationship between consumers' Sense of Justice and their Attitude towards Conventional Word of Mouth.

According to the correlations matrix there is a statistically significant relationship between the two variables. As a result the null hypothesis is rejected.

Behavior of Spreading WOM and Attitude towards Conventional WOM

$H_0$4. There is no relationship between consumers' Attitude towards Word of Mouth and their Actual Behavior of spreading word of mouth.

Correlations matrix provides statistical support for the significant relationship between attitude towards word of mouth and consumers' actual behavior of spreading word of mouth. consequently, the null hypothesis is rejected.

Beyond the hypothesized relationships, the correlation matrix suggests some other correlation among independent and dependant variables.

The following table summarizes hypothesis testing through correlations matrix. Out of twelve alternative hypothesis nine (9) are supported while three (3) are rejected. In other words only 3 null hypotheses are accepted.

Hypothesis	Results
H1a	Rejected
H1b	Accepted
H1c	Accepted
H1d	Accepted
H1e	Accepted
H2a	Accepted
H2b	Rejected
H2c	Accepted
H2d	Rejected
H2e	Accepted
H3	Accepted
H4	Accepted

Table 5.10 Hypothesis testing through correlation

5.4 Multivariate Analysis

In order to explore relationship between the independent and dependent variables, Multivariate analysis is done using Standard method. Multiple regressions are used to test on the two frameworks, one in the online environment and one in conventional method of WOM. Therefore, linear regression analysis tests the five independent variables (Self-confidence, conservativeness, assertiveness, risk taking and sense of justice) in relation with the consumers' attitude towards online and conventional word of mouth. Afterward, the relationship of the attitudinal variables is tested with behavioral variables. It is expected that the multiple regressions provides information about the model as a whole and the relative contribution of each variable that makes up the model. The regression analysis has several assumptions that need to be tested before proceeding to the analysis.

5.4.1 Assumption Testing

Prior to performing the multiple regression analysis, a few assumptions need to be tested. These assumptions underpin the use of regression:

1) Multicollinearity and Singularity
2) Normality and Linearity
3) Outliers
4) Homoscedasticity and Independence of residuals

1) Multicollinearity can be tested through the Correlations Matrix (Table 5.9). Multicollinearity exists when the independent variables are highly correlated (r=0.9 and above). Although some relationships are observed among variables, no multicollinearity exist.

2) Normality can be tested through examination of residual scatterplots. It is assumed that the differences between the obtained and predicted dependent variable scores are normally distributed. Furthermore these residuals are expected to have linear relationship with the predicted dependent variable scores. Figure 5.1and 5.2 illustrate these relationships.

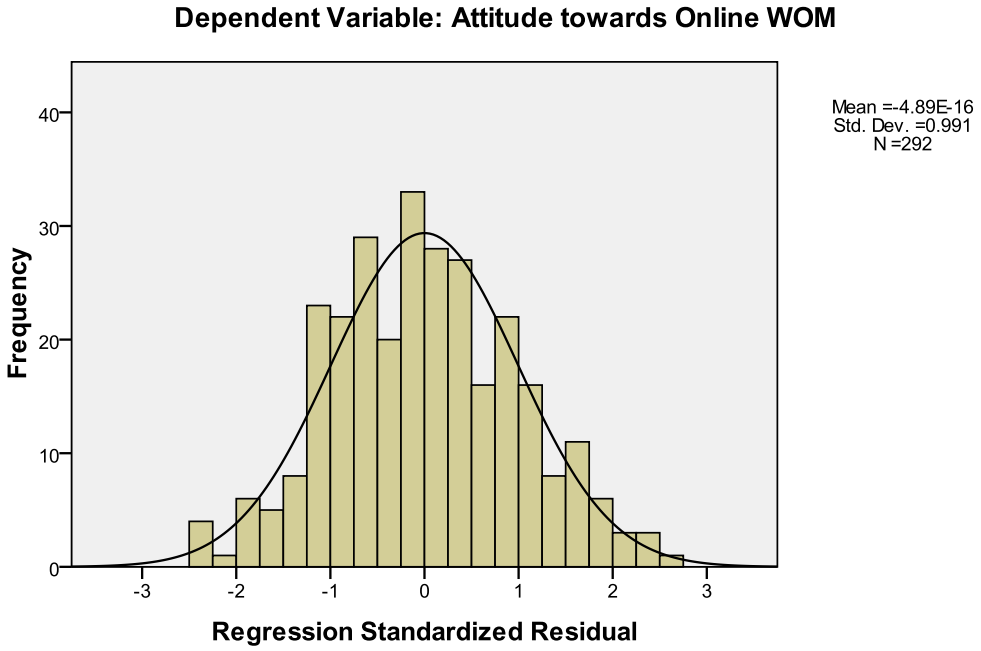

Figure 5.1 Histogram of Dependent Variable: Attitude towards Online WOM

Looking at the two presented figures, normality is assumed because of the perfect bell shape distribution of data. Moreover, Figure 5.2 shows the points lie in a reasonably straight diagonal line from bottom left to top right which suggests linearity. The tests are done for other frameworks as well and all confirm normality and linearity assumptions.

3) Outliers can be detected from the scatterplot (Figure 5.3). Outliers are cases that have a standardized residual of more than 3.3 or less than -3.3. As presented in the Scatterplot, there are no outliers.

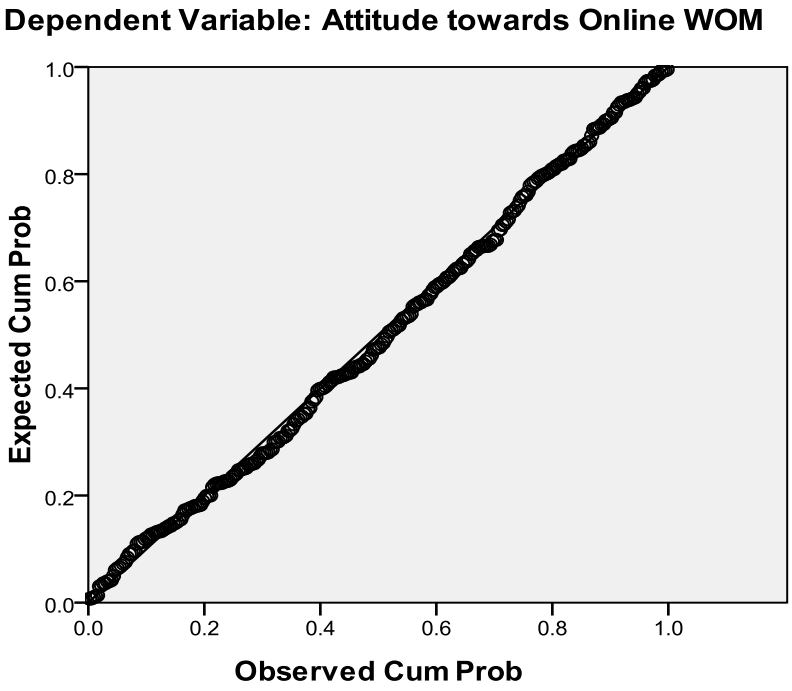

Figure 5.2 Normal Probability Plot of Regression Standardized Residual of Dependent Variable: Attitude towards Online WOM

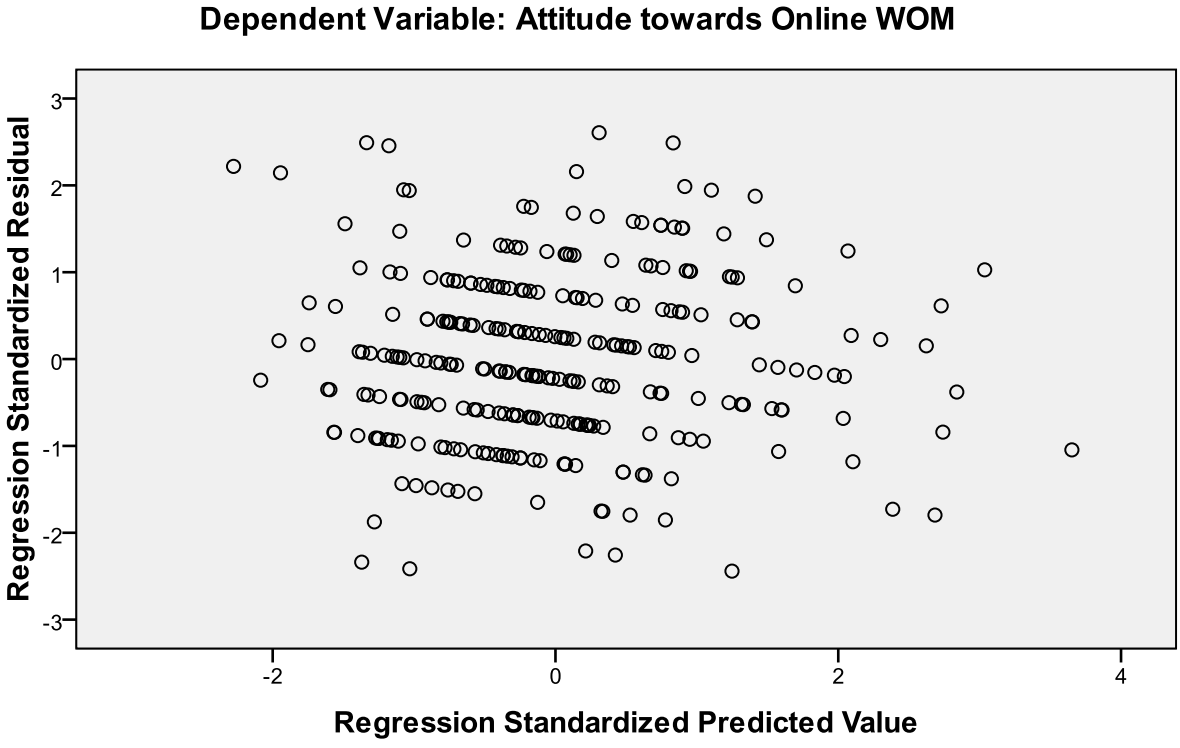

Figure 5.3 Scatterplot of dependent variable: Attitude towards Online WOM

4) Homoscedasticity and Independence of Residuals can also be checked by looking at the Scatterplot of the standardized residuals (Figure 5.3). The residuals are seen roughly rectangular distributed, with most scores focused in the centre, along the 0 point. The result proposes no violations to the assumptions.

5.4.2 Standard Multiple Regression

Evaluating the Online model

The following table presents a summary for the model. The 'R Square' which is presented in Table 5.11 shows how much of the variance in dependant variable is explained by this model. The result of regression analysis shows that only 20 percent of variations in Attitude towards Online WOM is defined by the five independent variables.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.448[a]	.201	.190	.26787

a. Predictors: (Constant), Sense of Justice, Conservativeness, Risk taking, Self Confidence, Assertiveness

Table 5.11 Model Summary (Online)

Although R Square does not show a high regression in the model, ANOVA test confirms that this model is significant at 0.01 level:

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.190	5	1.297	18.082	.000[a]
	Residual	20.665	298	.072		
	Total	25.854	302			

a. Predictors: (Constant), Sense of Justice, Conservativeness, Risk taking, Self Confidence, Assertiveness
b. Dependent Variable: Attitude towards Online WOM

Table 5.12 ANOVA test results

After analyzing summary of the model, it is time to evaluate participation of each independent variable to the variance in the dependant variable. This could be assessed through the Coefficients table which is presented in Table 5.12. The Standardized coefficient Beta shows which of the independent variables contributed to the prediction of the dependent variable. Larger values of Beta confirm stronger contribution in explaining the dependent variable.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.118	.356		8.753	.000
	Self_Confidence	.070	.074	.060	.946	.345
	Conservativeness	-.114	.051	-.138	-2.239	.026*
	Assertiveness	.068	.070	.063	.967	.334
	Risk_taking	.073	.054	.082	1.352	.177
	Sence_of_Justice	.089	.052	.100	1.710	.088*

a. Dependent Variable: Attitude towards Online WOM

*Significant at 0.1 level

Table 5.13 Coefficients of dependant variable: Attitude towards Online WOM

In order to determine the highest contributions to the model, the Standardized Coefficient Beta must be compared. In this model, Conservativeness with Beta of 0.138 (ignoring any negative signs out the front) has the largest Beta in the model and its T-value is verified to be significant. Sense of Justice has the second largest Beta (0.100) in this model, also confirmed to be significant. The other three variables do not have significant contribution to the model.

Having 'B values' under Unstandardized Coefficients, we can come up with a regression equation. The 'B value' here indicates that for 1 unit increase in the independent variable, Attitude towards Online WOM is increased as value of 'Standardized Coefficient B'. For this

purpose, only variables with significant values can be entered to this equation. Value of the 'constant' should also be entered to this equation as the following:

Attitude towards Online WOM = 3.118 + -0.114 (Conservativeness) + 0.089 (Sense of Justice)

Evaluating the Conventional model

The framework of Conventional method of Word of Mouth can be evaluate similar to the Online model. Therefore, similar steps are presented in model evaluation. Table 5.14 summarizes the model of conventional WOM.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.343[a]	.118	.102	.48425

a. Predictors: (Constant), Sense of Justice, Conservativeness, Risk taking, Self Confidence, Assertiveness

Table 5.14 Model Summary (Conventional)

As can be seen in this table, the model overall can predict 11.8 percent of variance in the dependent variable. The regression is significant as mentioned in the ANOVA test (see Table 5.15)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.875	5	1.775	7.569	.000[a]
	Residual	66.363	283	.234		
	Total	75.238	288			

a. Predictors: (Constant), Sence_of_Justice, Conservativeness, Risk_taking, Self_Confidence, Assertiveness

b. Dependent Variable: Attitude_Convention2

Table 5.15 ANOVA Test Results

Contribution of each one of five independent variables is stated in the Coefficients table (see Table 5.16). As illustrated in this table, the highest Beta belongs to 'Sense of Justice' with value of 0.292 which is significant. This is followed by Assertiveness and Self Confidence with Beta of .098 and .095 respectively; however the T value of these variables is not significant. Therefore the only significant variable in the regression analysis would be 'Sense of Justice'.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.562	.397		6.451	.000
	Self_Confidence	.106	.069	.095	1.530	.127
	Conservativeness	.026	.049	.033	.528	.598
	Assertiveness	.100	.065	.098	1.526	.128
	Risk_taking	-.025	.055	-.029	-.458	.647
	Sence_of_Justice	.256	.051	.292	5.064	.000

a. Dependent Variable: Attitude towards Conventional WOM

Table 5.16 Coefficients of dependant variable: Attitude towards Conventional WOM

Likewise, Having 'B values' under Unstandardized Coefficients, we can come up with a regression equation for attitude towards conventional WOM as the following:

Attitude towards Conventional WOM = 2.562 + 0.256 (Sense of Justice)

Comparison of Online and Conventional Contexts

Comparing the results of the regression analyses which are summarized in the two equations, it can be concluded that obviously attitude towards Online WOM differs from Attitude towards Conventional WOM. Where Conservativeness is a significant factor affecting consumer's attitude towards Online WOM, however it does not play a role in the conventional WOM

attitude. This can be explained through the fact that conservative people are supposed to be less responsive, and are not expected to express their opinions and feelings (Voss et al., 2004). In other words, leaving a review in an online platform is considered as expressing ideas to the public, therefore it can negatively affect highly conservative people's approach to online word of mouth. While in the conventional WOM context, consumers tend to speak to people who tend to know them (i.e. family and friends) therefore conservativeness does not affect their attitude.

All in all, these results confirm that online environments of WOM tend to be more complicated since more variables play a role. Therefore managing word of mouth by marketers and practitioners is more challenging in the online context.

5.5 Sobel Test

A variable may be considered a mediator to the extent to which it carries the influence of an independent variable (IV) to a dependent variable (DV). Sobel (1982) introduced a test that can evaluate effect of a mediator on the relationship of an independent and a dependant variable. In order to carry out the test, the following information must be collected:

a = raw (unstandardized) regression coefficient for the association between IV and mediator.

s_a = standard error of a.

b = raw coefficient for the association between the mediator and the DV (when the IV is also a predictor of the DV).

s_b = standard error of b.

There are three principal versions of the "Sobel test": (1) adds the third denominator term (Aroian, 1944/1947), (2) subtracts it (Goodman, 1960), and (3) does not include the third

denominator at all. Formulas for the tests provided here are drawn from MacKinnon and Dwyer (1994) and from MacKinnon, Warsi, and Dwyer (1995):

Sobel test equation: z-value = $a*b/SQRT(b^2*s_a^2 + a^2*s_b^2)$

Aroian test equation: z-value = $a*b/SQRT(b^2*s_a^2 + a^2*s_b^2 + s_a^2*s_b^2)$

Goodman test equation: z-value = $a*b/SQRT(b^2*s_a^2 + a^2*s_b^2 - s_a^2*s_b^2)$

Input	
a	3.006
b	2.996
s_a	0.420
s_b	0.211

Test	Test Statistics	Std. error	*P*-value
Sobel Test	6.391	1.409	0.00
Aroian Test	6.378	1.411	0.00
Goodman Test	6.403	1.406	0.00

Table 5.17 Sobel Test Results- Online Model

Results of this test shows that 'Attitude towards Online WOM' significantly affects the relationship between the independent variables and the dependant variable 'Behavior of Online WOM'. Therefore the mediation effect is confirmed.

The mediating effect of attitude in the conventional word of mouth should also be tested in the model through Sobel test. In similar calculations, results are as the following (See table 5.18)

Input	
a	2.562
b	1.518
s_a	0.397
s_b	0.201

Test	Test Statistics	Std. error	*P*-value
Sobel Test	4.906	0.792	0.000
Aroian Test	4.881	0.796	0.000
Goodman Test	4.931	0.788	0.000

Table 5.18 Sobel Test Results – Conventional WOM

5.6 Non-parametric Analysis

As mentioned earlier, a purpose of multi-country sampling was to explore the possible effect of different cultures on their attitude towards word of mouth. Although it was expected to observe differences in WOM attitude among different nations, this notion was not supported statistically. Using Chi-Square Test effect of all demographic characteristics of the sample was tested on Attitude towards Online and Conventional WOM. The results do not suggest any significant p-value at level of 0.05; Therefore, no significant difference as a result of demographic characteristics is confirmed.

5.7 Summary

In this chapter result of analysis on data was presented. First, in descriptive analysis of data, demographics of the respondents and their pattern of internet usage reviewed. After preliminary analysis including normality test, reliability and validity test, bivariate analysis by using correlations matrix was used to test the hypothesis. Out of twelve alternative hypothesis nine (9) were supported while three (3) were rejected. However after Multivariate (regression) analysis and Sobel test, only five (5) hypotheses were accepted. Conservativeness and Sense of Justice were confirmed to be significant in the model, whereas only Sense of Justice was accepted to be part of regression equation. Moreover, through Soble test the mediating effect of attitude towards words of mouth in both models was confirmed. Next chapter will apply these results to conclude the study and make recommendations.