CHAPTER 4 RESEARCH FINDINGS

4.1 Key Characteristics of Participants

Table 4.1 presents descriptive profile of the sample (n=220), including two major items in this study: (1) demographic profiles: gender, age group, education level and occupation; and (2) Internet Banking patronage profile: list of Internet Banking used and the reason of using the Internet Banking. It is shown that male and female respondents were well represented in the sample, with 47% of respondents being male and 53% female. The respondents in the sample are majority Internet Banking users between 26 to 40 years of age group (73%). About 10% of respondents fall into the 18 to 25 age group with only 3 respondents aged over 60. Given that the target respondents are Internet Banking users and are assumed to be computer literate, almost all respondents have obtained some form of post-secondary qualification. 69% of respondents hold a degree or professional certificate. Whereas 25% are post graduates and 11% possess a secondary or high school qualification. Respondents came from mostly sales and banking or finance and private sector occupational group, with 31% and 26% respectively. Respondents from government and manufacturing made up 18% and 8% respectively. Other occupations were reported as student (6%), housekeeper (2%) and others (10%).

In the survey, 51% of respondents indicated that they have Internet Banking with Maybank. This follows by CIMB and Public Bank which is 29% and 6 % respectively. Asides, the findings also indicated that 28% of the respondents

are patronizing with 2 or more banks. There are 58% of the respondents considered to open the Internet Banking accounts with the bank because they have a traditional bank account with the same bank. Whereas 23% of the respondents chose to have Internet Banking account with the bank because of the excellent service the bank offered. Only 6% considered the brand name of the bank as reason they used the bank's Internet Banking services.

Table 4.1:
Profiles of the Sample

Classification	Frequency	Percentage (%)
Demographic Profile		
Gender	104	47
Male	116	53
Female		
Age Group		
18-25 years old	22	10
26-40 years old	160	73
41-60 years old	35	16
18-25 years old	3	1
Occupation		
Student	13	6
Housekeeper	4	2
Private Sector	56	26
Government Sector	40	18
Manufacturing	17	8
Bank/ Financial Institution	69	30
Other	21	10
Education		
Secondary/ High School	25	11
Bachelor Degree	141	65
Professional Degree	11	5
Master/ Doctorate Degree	25	11
Other	18	8
Patronage Profile		
Internet Banking patronage with		
Maybank	111	51
CIMB	29	13
Public Bank	6	3
Other	11	5
Maybank & CIMB	29	13
Maybank & Public Bank	8	4
Maybank & CIMB & Public Bank	15	7

Table 4.1 continued

CIMB & Public Bank	1	.5
CIMB & Other	1	.5
Public Bank & Other	1	.5
Maybank & CIMB & Other	2	1
CIMB & Public Bank & Other	1	.5
Maybank & CIMB & Public Bank & Other	5	2
Reason for Internet Banking patronage		
I have a traditional bank account with the same bank	128	58
The brand name of the bank	14	6
The excellent service offered by this bank	50	23
Other	28	14

4.2 Data Analysis

4.2.1 Pre-Analysis Data Screening

Table 4.2 shows the descriptive data obtained after performing data cleaning. The minimum and maximum statistic is in tandem with the questionnaire and signals that data have been input correctly. The 5% trimmed mean is the mean after 5% of outliers and values that lie at the ends of the distribution have been removed. The 5% trimmed mean are close to actual mean. This means that data cleaning is completed.

Table 4.2:
Descriptive Data and Assessing Normality

	WOM		USABILITY		SATISFACTION		LOYALTY	
	Statistic	Std. Error	Statistic	Std. Error	Statistic	Std. Error	Statistic	Std. Error
Mean	28.4909	.293	27.6955	.279	23.2591	.207	35.9409	.298
5% Trimmed Mean	28.652		27.818		23.409		36.247	
Median	30.0000		28.0000		24.0000		36.0000	
Variance	18.909		17.089		9.462		19.517	
Std. Deviation	4.34840		4.13394		3.07608		4.41781	
Minimum	16.00		13.00		12.00		20.00	
Maximum	35.00		35.00		28.00		42.00	
Range	19.00		22.00		16.00		22.00	
Interquartile Range	5.00		5.00		3.00		5.00	
Skewness	-.525	.164	-.622	.164	-.548	.164	-.822	.164
Kurtosis	-.321	.327	.476	.327	.530	.327	.794	.327

Next, the data is assessed for normality to determine the correct statistical techniques to apply on the sample data. By testing skewness and Kurtosis of the data, the normality can be assessed. Skewness for WOM, usability, satisfaction and loyalty are -3.20, -3.79, -3.34 and -5.01 respectively. Kurtosis for corporate WOM, usability, satisfaction and loyalty are -0.98, 1.46, 1.62 and 2.43 respectively.

The normality test is accepted if the statistical value is between -2 and 2. Although skewness for WOM, usability and satisfaction is marginally lesser than -2, these variables are accepted as normal because it passes the Kurtosis test. However, the independent variable of loyalty did not pass the test for normality. Hence, it is assumed that normality condition was not met for loyalty and non-parametric test will be applied on this variable.

4.2.2 Reliability and Validity Test

The reliability of the instrument on Malaysian context was tested by using Cronbach's Alpha. The Cronbach's Alpha reported in Table 4.3 shows the coefficient alpha evidencing acceptable reliability in the Malaysian context. A coefficient of 0.70 of higher is generally considered as acceptably reliable. The Cronbach's Alpha obtained in this study for WOM, usability, satisfaction and loyalty are 0.936, 0.900, 0.922 and 0.928 respectively. The pilot study by Casaló, Flavian and Guinaliu, 2008 obtained Cronbach's Alpha of 0.73, 0.88, 0.87 and 0.70 respectively. The overall Cronbach's Alpha for our study is 0.889 which could be improved by making the question more suitable in the Malaysian context and by increasing the length of our instrument.

For construct validity in term of discriminant validity test, correlation analysis between the variables is performed. Pearson Correlation Coefficient was conducted to find out the relationship between usability, satisfactions and WOM. Spearman Correlation was applied to find out the relationship between loyalty and WOM. The result shows the correlations are low, in which the values are not higher than 0.8 as proposed by Bagozzi (1994). This indicates that the constructs are distinct from one another and deemed as an acceptable level of discrimination. Table 4.3 below shows the correlation analysis between the variables.

Table 4.3:
Means, Standard Deviations, Reliabilities and Correlations

Construct	Mean	Standard Deviation	Cronbach's Alpha	Correlation Coefficients (n=220)			
				WOM	USABILITY	SATISFACTION	LOYALTY
WOM	28.49	4.34	.936	1			
USABILITY	27.7	4.13	.900	.568*	1		
SATISFACTION	23.26	3.08	.922	.678*	.719*	1	
LOYALTY	35.94	4.42	.928	.679**	.598**	.780**	1

Note: * Pearson correlation coefficients are significant at p < .05 level (2-tailed).
** Spearman correlation coefficients are significant at p < .05 level (2-tailed).

4.2.3 Regression Analysis

Multiple Regression analysis was then performed to learn more about the relationship between several independent or predictor variables i.e. usability, satisfaction and loyalty to the dependent or criterion variable i.e. WOM. The Table 4.4 below shows the multiple correlations between WOM, offending, usability, satisfaction and loyalty.

Table 4.4:
Pearson Correlations for Variables

		WOM	USABILITY	SATISFACTION	LOYALTY
Pearson Correlation	WOM	1	.568	.678	.712
	USABILITY	.568	1	.719	.655
	SATISFACTION	.678	.719	1	.805
	LOYALTY	.712	.655	.805	1
Sig. (2-tailed)	WOM		.000	.000	.000
	USABILITY	.000		.000	.000
	SATISFACTION	.000	.000		.000
	LOYALTY	.000	.000	.000	

Note: Correlation coefficients are significant at p < .05 level.

The table shown WOM, usability, satisfaction and loyalty (p<.05) are significantly correlated. With this, the variables were suspected of being collinear. In statistical analysis, one cannot conduct multiple regression analysis if there is multicollinearity among the variables. Therefore, Tolerance and Variance Inflation Factor (VIF) test was conducted. The tolerance is an

indication of the percent of variance in the predictor that cannot be accounted for by the other predictors, hence very small values indicate that a predictor is redundant, and values that are less than .10 may merit further investigation. VIF is a measure of the effect of the other independent variables on a regression coefficient. Large value, usually 10.0 or more, suggest collinearity or multicollinearity.

Table 4.5:
Regression Coefficients and Collinearity

Model		Unstandardized Coefficients[a]		Standardized Coefficients[a]			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.636	1.692		.967	.335		
	USABILITY	.101	.071	.096	1.433	.153	.467	2.141
	SATISFACTION	.347	.121	.246	2.867	.005	.288	3.474
	LOYALTY	.444	.078	.451	5.722	.000	.340	2.939

Dependent Variable: WOM

The table above shows that tolerance for usability, satisfaction and loyalty are .467, .288 and .340 respectively while the Variation Inflation Factor (VIF) is 2.141, 3.474 and 2.939 correspondingly (as VIF = 1/Tolerance). Since tolerance is far from 0.1 and VIF is less than 10, multicollinearity is therefore quite small on the sample data and independence of data is verified. The table above also shows the regression coefficients for the independent variables. From the model above, we can derive the regression equation which can possibly predict WOM as:

$$W = 1.64 + .10X_1 + .35X_2 + .44X_3 \qquad \text{(Equation 1)}$$

where, W = Word-of-mouth

X_1 = Usability

X_2 = Satisfaction

X_3 = Loyalty

All the independent variables are correlated positively with WOM. Usability is not significant to WOM (p>.05). Loyalty has the highest regression multiplier (B=.44) followed by satisfaction (B=.35) and usability (B=.10). Beta value for satisfaction also indicates that for each unit increment in satisfaction, WOM will increase by .25 standard deviations. Similarly, each unit increment in loyalty will increase WOM by .45 standard deviations. Therefore, equation for WOM can be concluded as below:

$$W = 1.64 + .35\ X_2 + .44\ X_3 \qquad \text{(Equation 2)}$$

where, W = Word-of-mouth

X_2 = Satisfaction

X_3 = Loyalty

Table 4.6:
Regression Model Summary for Independents Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.737[a]	.543	.537	2.9601

Predictors: (Constant), LOYALTY, USABILITY, SATISFACTION

Table 4.6 shows that correlation of the independent variables with dependent variable is R = .74. It is also evident that the independent variables (usability, loyalty and satisfaction) account for 54.3% of variance in WOM.

Table 4.7:
Regression ANOVA for Research Variables

Model		Sum of Squares	df	Mean Square	F	Sig
1	Regression	2248.347	3	749.449	85.532	.000[a]
	Residual	1892.635	216	8.762		
	Total	4140.982	219			

a. Predictors: (Constant), LOYALTY, USABILITY, SATISFACTION
Dependent Variable: WOM

Table 4.7 assesses the overall significance of the research model. It reports that a significant model emerged (F3, 216 = 85.53, p< .05).

In the next process, we will reaffirm the research model using the stepwise multiple regression. Table 4.8 shows that variable usability was removed from the analysis. This indicates that usability was not a significant predictor in this model. This is consistent with the assumption made earlier in the first regression equation.

Table 4.8:
Stepwise Regression Variables Entered/Removed

Mode	Variables Entered	Variables Removed	Method
1	LOYALTY		Stepwise (Criteria: Probability-of-F-to-enter<=.050, Probability-of-F-to-remove>=.100)
2	SATISFACTION		Stepwise (Criteria: Probability-of-F-to-enter<=.050, Probability-of-F-to-remove>=.100)

Dependent Variable: WOM

Table 4.9 reports that when satisfaction is inserted into the regression equation, WOM can be explained by 46.0%. Next, loyalty is added into the regression equation which results in the explanation of 53.9% for the dependent variable.

Table 4.9:
Stepwise Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.678[a]	.460	.458	3.20240
2	.734[b]	.539	.534	2.96727

a. Predictors: (Constant), SATISFACTION

b. Predictors: (Constant), SATISFACTION, LOYALTY

Table 4.10 shows the significance of the regression equation for both models. The regression equation predicts WOM mostly in model 2 where $F_{2,217}$ = 126.66 that is significant at $p < 0.05$.

Table 4.10:
Stepwise Regression ANOVA for Research Variables

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1905.309	1	1905.309	185.786	.000[a]
	Residual	2235.673	218	10.255		
	Total	4140.982	219			
2	Regression	2230.366	2	1115.183	126.658	.000[b]
	Residual	1910.616	217	8.805		
	Total	4140.982	219			

a. Predictors: (Constant), SATISFACTION

b. Predictors: (Constant), SATISFACTION, LOYALTY

Dependent Variable: WOM

In Table 4.11, without the effect of the insignificant variables, the WOM equation obtained has an almost similar regression multiplier to the second regression equation (Equation 2). Hence, this concludes that the regression analysis performed on dependent variable is validated.

Table 4.11:
Stepwise Regression Coefficients for Research Variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6.188	1.650		3.749	.000		
	SATISFACTION	.959	.070	.678	13.630	.000	1.000	1.000
2	(Constant)	1.981	1.679		1.180	.239		
	SATISFACTION	.422	.110	.298	3.840	.000	.352	2.839
	LOYALTY	.465	.076	.472	6.076	.000	.352	2.839

Dependent Variable: WOM

Another set of regression analysis was conducted to verify the effect of website usability on the overall research construct. In Table 4.12, model 2

indicated that the adjusted R^2 is 0.469 with the R^2 = .474, that means that the linear regression explains 47.4% of the variance in the data.

Table 4.12:
Stepwise Regression Model Summary of Usability and Satisfaction on WOM

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.678[a]	.460	.458	3.20240	.460	185.786	1	218	.000
2	.688[b]	.474	.469	3.16919	.014	5.593	1	217	.019

a. Predictors: (Constant), SATISFACTION

b. Predictors: (Constant), SATISFACTION, USABILITY

The next table shows the significance of the regression for the model 2 where $F_{2, 217}$=97.646 that is significant at p<.05.

Table 4.13:
Regression ANOVA of Usability and Satisfaction on WOM

	Model	Sum of Squares	df	Mean Square	F	Sig.
2	Regression	1961.480	2	980.740	97.646	.000[a]
	Residual	2179.501	217	10.044		
	Total	4140.982	219			

a. Predictors: (Constant), SATISFACTION, USABILITY

b. Dependent Variable: WOM

The next step shows the effect of usability on loyalty. Table 4.14, model 2 indicated that the adjusted R^2 is 0.657 with the R^2 = .660, that means that the linear regression explains 66.0% of the variance in the data.

Table 4. 14:
Stepwise Regression Model Summary of Usability and Satisfaction on Loyalty

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.805[a]	.648	.646	2.62778	.648	400.985	1	218	.000
2	.812[b]	.660	.657	2.58859	.012	7.651	1	217	.006

a. Predictors: (Constant), SATISFACTION

b. Predictors: (Constant), SATISFACTION, USABILITY

Table 4.15 shows the significance of the regression for the model 2 where $F_{2, 217}$=210.435 that is significant at p<.05.

Table 4.15:
Regression ANOVA of Usability and Satisfaction on Loyalty

	Model	Sum of Squares	Df	Mean Square	F	Sig.
2	Regression	2820.162	2	1410.081	210.435	.000[a]
	Residual	1454.070	217	6.701		
	Total	4274.232	219			

a. Predictors: (Constant), SATISFACTION, USABILITY
b. Dependent Variable: LOYALTY

4.3 Findings

The sample size is sufficient to segment the Internet Banking users in Malaysia based on comScore Media Metrix (2009) report on number of Internet Banking user in Malaysia. See Table 4.16.

Table 4.16:
Comparison of Sample Size to Number of Internet Banking Users in Malaysia

Banking Websites	**Unique Visitors (%)**	**Sample (%)**
Maybank2u.com	48.3	54.7
CIMBClicks.com.my	19.3	26.7
PBeBank.com	13.2	11.9
Other	19.2	6.8

The relationship between customer satisfaction and WOM

The results show that satisfaction has a positive direct effect on WOM (r=.678, p<.05). The regression equation confirmed the significant association between satisfaction and WOM. This implied that satisfied customers are more likely to engage in positive WOM. This result suggests that most satisfied Internet Banking customers are willing to support the online services that they use. Banks should try to develop positive WOM about their online services via

customer satisfaction. This finding is consistent with the previous research. Hence, H1 is supported.

The relationship between customer satisfaction and loyalty

The study shows that there is a very high correlation score between satisfaction and loyalty ($r=.805$, $p<.05$). This implies that satisfied customers have a direct impact on customers' loyalty. The finding suggests that besides creating online products that could satisfy customers in short-term, banks should also emphasize the long-term relationships with customers which involve actions that could develop the customers from being satisfied to being loyal. This result is consistent with the previous research. Therefore, H2 is supported.

The relationship between customer loyalty and WOM

The results of the research also shows that there is a significant positive correlation between loyalty and WOM ($r=.712$, $p<.05$). The regression equation confirmed the significant association between loyalty and WOM with the highest regression multiplier ($B=.44$). This implies that loyal customers are likely to give favorable WOM recommendations to others. This finding suggests that banks can benefit from positive WOM referrals from their loyal customers. Gitomer (1998) reported that WOM marketing is fifty times more powerful than advertising. Hence, banks should seriously view WOM as one of their powerful marketing tool. The result is consistent with the previous research. Therefore, H3 is supported.

The relationship between Website usability and satisfaction

In consistent with previous research, H4 was also supported since the result reports that Website usability is positively and highly correlated with customer satisfaction ($r=.719$, $p<.05$). As a result, satisfaction could be also clearly explained by using only one antecedent: Website usability. This suggests that Website usability has positive influence on the satisfaction towards the bank websites.

The mediating effect of satisfaction on the relationship between Website usability and WOM; and Website usability and loyalty

It was also notable that the result could explain the indirect effect of usability on WOM through satisfaction. The regression analysis shows that usability was not significantly correlated with WOM ($t=1.433$, $p>.05$). However, the third regression analysis verified the indirect effect of usability on WOM through satisfaction ($R^2 = .474$). At the same time, customer loyalty was positively explained by the indirect effect of usability on loyalty through satisfaction ($R^2 = .660$).

The mediating effect of loyalty on the relationship between satisfaction and WOM

Positive WOM was also explained by the indirect effects of satisfaction on WOM through customer loyalty ($R^2=.539$). This finding implies that satisfied customers may not be also a loyal customer to an Internet Banking website, but satisfied and loyal customers will lead to positive WOM. Like any other organizations do, banks strive for customers to be “satisfied”. However, the

finding suggests in order to getting the satisfied customers to engage in positive WOM, banks need the foundation for long-term, more profitable and loyal relationships with customers.

4.4 Summary

The chapter illustrates sets of analysis performed on the collected data and presents the findings of this study.