CHAPTER FOUR – RESEARCH FINDINGS

4.0 Introduction

This chapter presents the results of the data analysis process and findings. This research is explanatory in nature and evolves around hypothesis testing. There are five sections in this chapter. The first section is a discussion on the preliminary procedures before data analysis is conducted. This section includes data screening, normality test, factor analysis and reliability testing. This is followed by the demographic profile and the religiosity s scores of the respondents. The fourth section covers the hypothesis testing done for the research and the last section concludes the chapter.

SPSS version 16 has been used in the data analysis collected from the survey. The applied SPSS tests are descriptive analysis, factor analysis, normality and reliability, Pearson correlation, independent sample t-test and one way ANOVA.

4.1 Preliminary Procedures

4.1.1 Data Screening

Before conducting the data analysis, it is essential to check the data set for errors. It is very easy to make mistakes when entering data and unfortunately some errors can completely affects the analysis result. The data screening process involves checking for errors and finding and correcting the error in the data file (Pallant, 2005).

Table 4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Service Quality	255	127.00	204.00	174.7176	15.69313
Religiosity	255	99.00	150.00	126.8196	11.71541

Table 4.1 shows the result of the data screening for this study and no missing data and no error found in the data set. The mean, minimum and maximum value of the variables; service quality and religiosity, are within the expected range.

4.1.2 Normality Test

The assumption of normality is a prerequisite step for many inferential statistical techniques (Coakes and Steed, 2007). There are several ways to explore normality by relying on statistical tests (skewness and kurtosis) or graphically (histogram, stem-and-leaf plot, boxplot). Normal is used to describe symmetrical, bell-shaped curve, which has the greatest frequency of scores in the middle, with smaller frequencies towards the extremes. Values for skewness and kurtosis are zero if the observed distribution is exactly normal (Coakes and Steed, 2007).

Table 4.2 shows that the skewness and kurtosis values of both, service quality and religiosity are within the range of (-2 to 2), thus the data distribution for the sample is considered normally distributed (Peat and Barton, 2005).

Table 4.2 Descriptive for Normality

			Statistic	Std. Error
Service Quality	Mean		174.7176	.983
	95% Confidence Interval for Mean	Lower Bound	172.7823	
		Upper Bound	176.653	
	5% Trimmed Mean		175.171	
	Median		175.000	
	Variance		246.274	
	Std. Deviation		15.693	
	Minimum		127.000	
	Maximum		204.000	
	Range		77.000	
	Interquartile Range		18.000	

	Skewness	-.291	.153
	Kurtosis	.408	.304
Religiosity	Mean	126.8196	.734
	95% Confidence Interval for Mean Lower Bound	125.3748	
	95% Confidence Interval for Mean Upper Bound	128.264	
	5% Trimmed Mean	126.831	
	Median	127.000	
	Variance	137.251	
	Std. Deviation	11.715	
	Minimum	99.000	
	Maximum	150.000	
	Range	51.000	
	Interquartile Range	17.000	
	Skewness	-.023	.153
	Kurtosis	-.515	.304

4.1.3 Factor Analysis

This is used for data reduction. Factor analysis can be used to determine the number of factors required to represent a set of variables. The main applications of factor analysis are to reduce the number of variables and to reduce structure in the relationship between variables that is to classify variables. Principal components factor analysis attempts to produce a smaller number of linear combinations of the original variables in a way that captures most of the variability in the pattern of correlations and the variables are transformed into a smaller set of linear combinations, with all of the variance in the variables being used (Pallant, 2005). In this study exploratory factor analysis (Principal Components Analysis (PCA) is used to identify the religiosity and service quality service factors.

There are two main issues to consider in determining whether a particular data set is suitable for factor analysis (Pallant, 2005). The first one is the sample size. According to

Coakes and Steed (2007), a sample of 100 subjects is acceptable but sample sizes of 200+ are preferable. Therefore, the first assumption is fulfilled with sample size of 255. The second issue is the strength of the relationship among the variables or items, the correlation matrix should show at least some correlations of 0.3 or greater. The SPSS output of the data showed existence of many coefficient of 0.3 and above for both religiosity and service quality.

A shown in Table 4.3 and Table 4.4, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy exceeds the recommended value of 0.6 (Pallant, 2005); it is found to be 0.871 for religiosity and 0.907 for service quality. This value suggests that the identified clusters are compact enough to ensure that the factor analysis will give distinct and acceptable factors and the sample used was adequate. In addition, the Bartlett's test was highly significant (sig. = 0.000), which indicates that there are sufficient significant correlation coefficients to ensure that the factor analysis processes can be applied.

Table 4.3 Kaiser-Meyer-Olkin (KMO) and Bartlett's Test for Religiosity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.871
Bartlett's Test of Sphericity	Approx. Chi-Square	4260.780
	df	300
	Sig.	.000

Table 4.4 Kaiser-Meyer-Olkin (KMO) and Bartlett's Test for Service Quality

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.907
Bartlett's Test of Sphericity	Approx. Chi-Square	5271.456
	df	561
	Sig.	.000

According to Palant (2005), there are two most commonly used techniques that can be used to determine the numbers of factors to retain. One is using Kaiser's criterion. Using this rule, only factors with an eigenvalue of 1.0 or more are retained for further investigation. Another approach that can be used is Catell's scree test. This involves plotting each of the eigenvalues of the factors and inspecting the plot to find a point at

which the shape of the curve changes direction and becomes horizontal. Catell recommends retaining all factors above the elbow, or break in the plot, as these factors contribute the most to the explanation of the variance in the data set.

Factor analysis is conducted for the 25 items of religiosity. An inspection of the scree plot, Chart 4.1 revealed a clear break after second component and another one is after the third component. Principal component factors analysis revealed the presence of five components factors with eigenvalues exceeding 1, explaining 23%, 20.08%, 12.28%, 6.32% and 5% of the variance respectively. However, the fourth and fifth factors are represented by only one item each; therefore the factor analysis is rerun by fixing the factor number to three following the first elbow in the scree plot.

Chart 4.1 Scree Plot for Religiosity

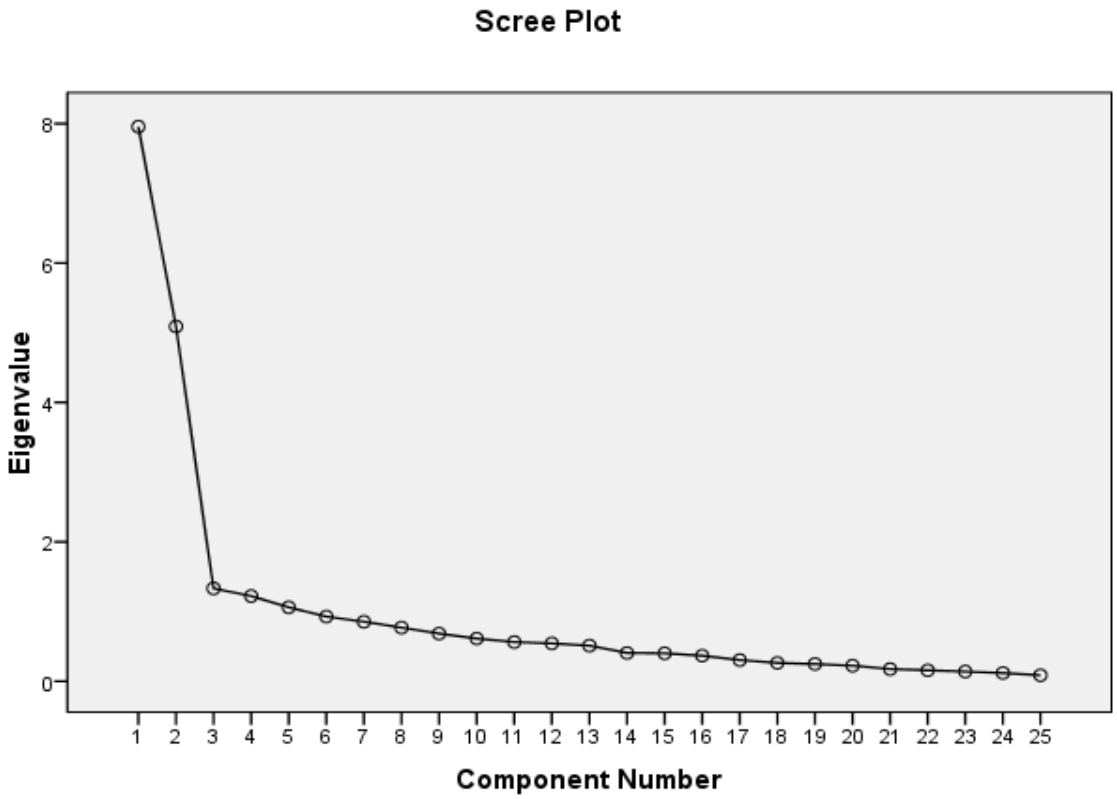

Table 4.5 shows the three factors accounted for 57.51% of the total variance. The orthogonal Varimax rotation approach was subsequently applied on the unrotated factors to obtain simpler and more meaningful factor solutions.

Table 4.5 Total Variance Explained for Religiosity

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	6.175	24.701	24.701
2	4.915	19.662	44.363
3	3.286	13.145	57.508
Extraction Method: Principal Component Analysis.			

As shown in Table 4.6, there are three religiosity factors extracted. Only 24 items were retained after the factor analysis. The first factor consisted of 11 items related to perception on faith and believes of the Muslims. While the second factor has 7 items which are mainly considered as recommended practices for a Muslim and the third factor has 6 items related to the mandatory obligations for Muslim.

Table 4.6 Rotated Component Matrix for Religiosity

Factor 1: Faith and Belief	
I believe that Allah helps people.	.831
I believe that Allah helps me.	.830
Saying my prayers helps me a lot.	.787
I will continuously seek to learn about Allah.	.780
Islam helps me lead a better life.	.776
Muhammad (peace be upon him) provided a good standard of conduct for me.	.742
I believe that Allah listens to prayers.	.738
Quran is relevant and applicable to modern day.	.716
The five prayers help me a lot	.602
The supplication (dua') helps me.	.561
I believe beyond a shadow of doubt that Islam is God's religion and that Prophet Muhammad is His Messenger.	.560
Factor 2: Recommended Practices	
I regularly perform my qiamullail (such as praying/reciting Quran/dua' after midnight).	.876

I perform my daily prayers in the mosque regularly.	.849
I regularly perform my recommended prayer (i.e. sembahyang sunat such as Isra', Dhuha and Rawatib).	.840
I often fast outside the month of Ramadan	.806
I read the Quran everyday.	.774
I regularly spend some amount from my monthly income for charity/sadaqah.	.628
I perform the obligation of *zakat* maal (asset/income) annually.	.494
Factor 3: Mandatory Obligations	
I pray five times a day.	.738
I fast the whole month of Ramadan.	.672
I perform the obligation of *zakat* fitrah annually.	.600
I consider myself as a religious person.	.599
I read the Quran for inspiration and motivation.	.525
Performing hajj will be my priority the moment I've fulfilled all the necessary conditions.	.431

Exploratory factor analysis is then conducted on the 34 attributes of service quality. The scree plot in Chart 4.2 below shows that five to six factors maybe obtained as the line between the sixth component is almost straight. By using Kaiser's criterion, six factors have been extracted having eigenvalues exceeding 1 that accounted for 63.74% of total variation in the observed variables as presented in Table 4.6 below.

Chart 4.2 Scree Plot for Service Quality

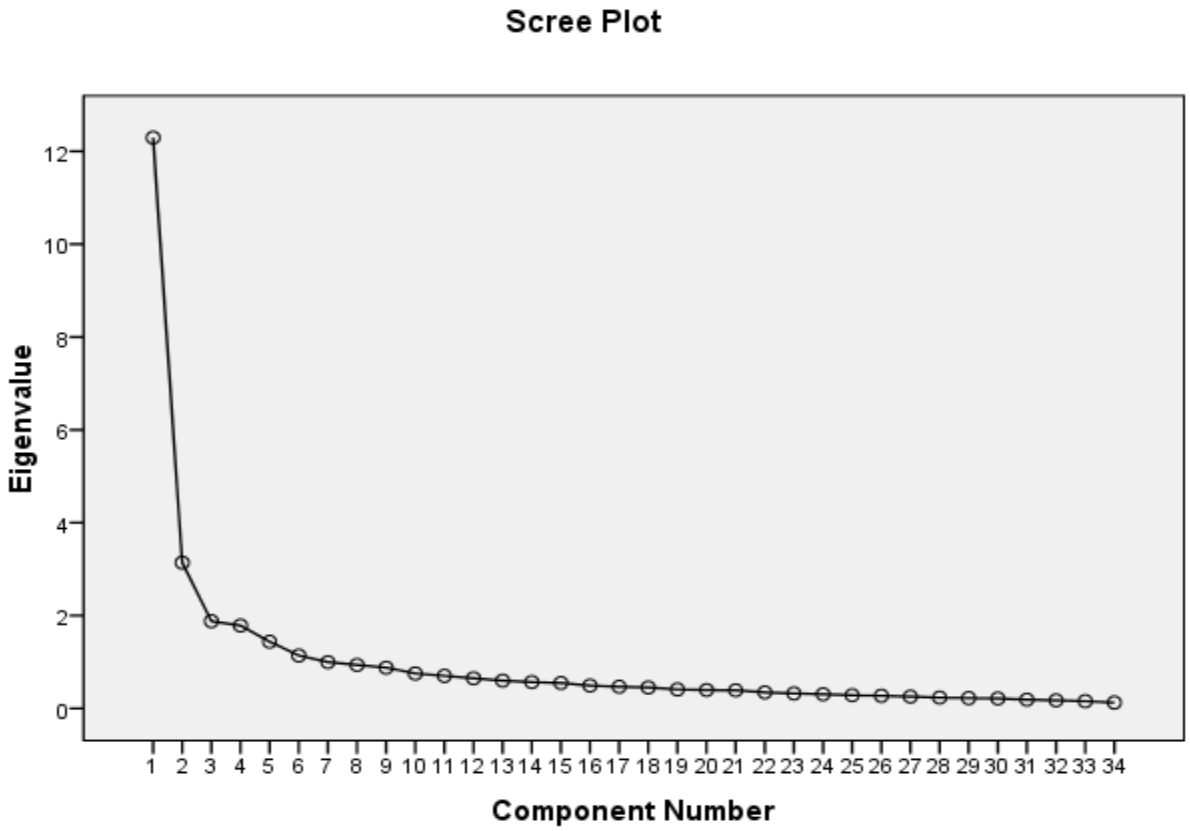

Table 4.7 Total Variance Explained for Service Quality

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	4.617	13.579	13.579
2	4.237	12.462	26.042
3	3.553	10.451	36.493
4	3.286	9.666	46.158
5	3.015	8.867	55.025
6	2.962	8.712	63.737

Extraction Method: Principal Component Analysis.

As shown in Table 4.8 below, most of the service quality items were loaded with correlation coefficients of more than 0.50 and only three items (bank location,

knowledgeable and experienced management team and parking availability) were loaded with correlation coefficients less than 0.50 (0.48 and 0 .45 and 0.43 respectively).

Table 4.8 Rotated Component Matrix for Service Quality

Factor 1: Reliability	
Convenience (short time for service anywhere)	.729
Speed and efficiency of transactions	.719
Ease of access to account information	.652
Fast and efficient counter services	.634
Security of transactions	.626
Bank's familiarity, reputation and image	.584
Integrated value-added services used	.551
Bank location	.487
Knowledgeable and experienced management team	.444
Factor 2: Empathy	
Confidence in bank's management	.822
Confidentiality of bank	.820
Knowledge on customer's business or willing to help	.659
Products and service profitability	.657
Way staff treat customers	.549
Able to fulfill individual/personal needs	.542
Parking availability	.433
Factor 3: Compliance	
No interest neither paid nor taken on savings and loans	.826
Provision of Islamic products and services	.826
Run in Islamic law and principles	.775
Provision of free interest loans	.773
Provision of profit-sharing investment products	.610
Factor 4: Responsiveness	
Availability of credits on favourable terms	.706
Lower service charge	.678
More counters open at peak hours	.644
Number of branches	.574
Opening hours of operations	.513
Factor 5: Assurance	
Politeness and friendly staff	.723
Provision of financial advice	.684
Interior comfort of the Islamic bank	.673

Wide range of products and services provided	.523
Factor 6: Tangibility	
Bank size in assets and capital	.728
External appearance	.720
Overdraft privileges on current accounts	.624
Counter partitions in bank and its branches	.545

There are 6 factors extracted as depicted in Table 4.8 and all the 34 items are retained and assigned the names as in sequential based on the content domain in a same set of factors or components. However, it is observed that the pattern of loading of the items did not exactly follow the six dimensionality structure of CARTER. Some of the items had to be re-organized among the six dimensions. Only the compliance attributes were loaded into the same dimension accordingly. Since the study adopted the CARTER model to a very large extent and due to its wide applicability in measuring bank service quality, the results of the rotated factor matrix were interpreted by paying attention to which variables had greater loadings in individual factors accordingly. The validity of the modified scale was tested later by the reliability analysis.

The failure of the service quality dimensions to fit the original factor structure is in line with previous literature (Chi Cui et al., 2003; Jabnoun and Al-Tamimi, 2003; Mukherjee and Nath, 2005) that undertook the study in banking industry in South Korea, UAE and India respectively. The findings show that the service quality model is dependent on the cultural context and there can be overlapping between the identified dimensions. Service quality dimensions and their items are subject to change from one study to another, the name of the dimensions, the number of dimensions, the rank of each dimension, the name of items that are included in each dimension, the number of items that are included in each dimension and the rank of the item inside each dimension.

4.1.4 Reliability

According to Pallant (2005), reliability of scale indicates how free it is from random error. There are several different reliability coefficients. One of the most commonly used

is Cronbach's alpha which is based on the average correlation of items within a test if the items are standardized (Coakes and Steed, 2007). The values range from 0 to 1, with higher value indicating greater reliability. Ideally, the Cronbach's alpha coefficient should be above 0.7 (Nunnally and Bernstein, 1994).

As reflected in the Table 4.9 below, the alpha values for the three factors of religiosity are well above 0.7, which is 0.924, 0.898 and 0.814 respectively. Meanwhile, the Cronbach's Alpha for six factors of service quality ranges from 0.764 to 0.891 as presented in Table 4.10. Thus, it can be concluded that all the religiosity and service quality attributes are internally consistent because all the values exceeded Nunnally and Bernstein (1994) recommended criterion of 0.7 for scale reliability.

Table 4.9 Reliability Statistics for Religiosity

Factor	Cronbach's Alpha	No of items
1	.924	11
2	.898	7
3	.814	6

Table 4.10 Reliability Statistics for Service Quality

Factor	Cronbach's Alpha	No of items
1	.891	9
2	.889	7
3	.856	5
4	.801	5
5	.818	4
6	.764	4

4.2 Respondents' Demographic Profile

Table 4.11 summarises the statistics on gender, age, educational level, marital status, occupation, monthly income, type of bank account of the respondents and the reason for choosing Islamic banks. The respondents are predominantly female, constituting 58.8

percent of the total respondents. Almost 60.4 percent of respondents fall in the range of 30-39 years of age.

The results reported in Table 4.11 also indicate that the majority of respondents are well educated, with 17.6 percent holding certificates or college diploma and about 80 percent holding a bachelor degree or above. Majority of the respondents are in the RM2000-RM5000 and RM5001-RM8000 monthly income group. Combined together, the respondents in those two income groups represent approximately 73.3 percent of the total sample. This result indicates that most of the respondents can be classified as middle-class income earners. Consistent with the results presented in Table 4.10 on education and income, occupation shows that the majority of the respondents are in executive or supervisor categories. The other dominant group is skilled professional which comprise of 26.7 percent of the respondents. Most of the respondents which accounted of 56.9 percent of total respondents have Islamic banking account with conventional banks offering Islamic window. Majority of the respondents have current or saving account with Islamic banks. Vehicle and home financing and investment account are another popular products being used by the respondents. Meanwhile, 45.9 percent of the respondents have been customers of Islamic banks for 1 to 5 years, 26.7 percent for 6 to 10 years and 13.3 percent more than 10 years. This shows that both respondents have good relationship with the Islamic banks and there was a relatively high degree of stability maintaining relationships between them.

Table 4.11 Frequency of Demographic Information

Demographic Variables	**Categories**	**Frequency**	**Percentage**
Gender	Male	105	41.2
	Female	150	58.8
Age	20 - 29 years	52	20.4
	30 – 39 years	154	60.4
	40 – 49 years	40	15.7
	50 and above	9	3.5
Educational Level	Secondary or below	6	2.4

	Certificate / Diploma	45	17.6
	Degree/Professional Qualification	144	56.5
	Post Graduate	60	23.5
Marital Status	Single	80	31.4
	Married	166	65.1
	Divorced/Separated/Widowed	9	3.5
Occupation	Managerial	50	19.6
	Professional	68	26.7
	Executive / Supervisor	102	40.0
	Clerical / Supporting Staff	20	7.8
	Self employed	8	3.1
	Others	7	2.7
Monthly Income	Below RM 2,000	13	5.1
	RM 2,000 - RM 5,000	100	39.2
	RM 5,001 - RM 8,000	87	34.1
	RM 8,001 - RM 10,000	24	9.4
	RM 10,001 & above	31	12.2
Bank Account	Islamic banking account with a conventional bank	145	56.9
	Islamic banking account with an Islamic bank	110	43.1
Duration	Less than a year	36	14.1
	1 to 5 years	117	45.9
	6 to 10 years	68	26.7
	More than 10 years	34	13.3
Type of Products Used *	Current / Saving Account	152	72%
	Personal Loan	25	12%
	Vehicle Financing	50	24%
	Investment Account	54	26%
	Home Financing	47	22%
	Credit Card	39	19%

* Respondents may select more than one checkbox, so percentages may add up to more than 100%.

Table 4.12 below list the main reasons selected by the respondents for holding an Islamic bank account. The two most common reasons for holding an Islamic bank account were religious motive and both *Shariah* compliance and other criteria such as low service charges, bank reputation, staff friendliness and quality of the service. It is clear that the religious reason is the primary motivation for opting to bank in with Islamic banks and at the same time other factors such as bank reputation and quality of the service are deemed important to the respondents.

Table 4.12 Reasons for Holding an Islamic Bank Account

Reasons	**No of responses**	**Percentage**
Religious motive (*Shariah* Compliance)	107	51
Economic motives such as variety of financing options, service quality, attractive pricing and good returns offered by the banks	51	24
Both *Shariah* compliance and other criteria such as low service charges, bank reputation, staff friendliness and quality of the service are important	76	36
Ethical beliefs in terms of fairness, socially responsible behaviour, accountability and transparency	42	20
Others	8	4

* Respondents may select more than one checkbox, so percentages may add up to more than 100%.

4.3 Religiosity Scores of the Respondents

Religiosity scale measures the level of religious commitment among respondents. The total religiosity scores were computed to determine the level of religiosity of respondents. The Likert scale used in this scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree). Accordingly, the higher score indicates higher level of religious commitments and vise versa.

The religiosity of the respondents was then determined by using percentile (Muhamad et al., 2006) whereby the upper and the lower thirds of the distribution are identified as the devout and casually religious group respectively. Further analysis shows that respondents

with scores of 129 and above was grouped as the devout, those with scores of 118 to 129 was considered as moderately religious group and below 118 was considered as casually religious.

The religiosity scores for respondents in this study ranges from 99 to 150. According to frequency distribution, Table 4.13 below, 94 (36.9 %) respondents represented the devout, 76 (29.8 %) respondents are moderately religious and 85 (33.3 %) respondents belong to the casually religious group.

Table 4.13 Frequency for Religiosity Profile

	Frequency	Percent	Valid Percent	Cumulative Percent
Casually Religious	85	33.3	33.3	33.3
The Devout	94	36.9	36.9	70.2
Moderately Religious	76	29.8	29.8	100.0
Total	255	100.0	100.0	

4.3.1 Religiosity and Demographic Comparison

A chi-square analysis was conducted on the selected demographic variables which include gender, age, education level, profession and monthly income. The result of the analysis was presented in Table 4.14.

Table 4.14 Chi-square Analysis of Selected Demographic Variables

Demographic Variables	**Religiosity**						**Total**	
	Casually Religious		**The Devout**		**Moderately Religious**			
	Freq	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**
Gender								
Male	41	39.0	42	40.0	22	21.0	105	41.2
Female	44	29.3	52	34.7	54	36.0	150	58.8
χ^2 is significant,								

p=0.031								
Age								
20 - 29 years	16	30.8	22	42.3	14	15.5	52	20.4
30 – 39 years	51	33.1	48	31.2	55	35.7	154	60.4
40 – 49 years	17	42.5	18	45.0	5	12.5	40	15.7
50 and above	1	11.1	6	66.7	2	22.2	9	3.5
χ^2 is significant, p=0.039								
Education Level								
Secondary or below	4	66.7	1	16.7	1	16.7	6	2.4
Certificate / Diploma	19	42.2	21	46.7	5	11.1	45	17.6
Degree/Professional Qualification	44	30.6	53	36.8	47	32.6	144	56.5
Post Graduate	18	30.0	19	31.7	23	38.3	60	23.5
χ^2 is significant, p=0.038								
Occupation								
Managerial	16	32.0	20	40.0	14	28.0	50	19.6
Professional	20	29.4	31	45.6	17	25.0	68	26.7
Executive / Supervisor	35	34.3	32	31.4	35	34.3	102	40
Clerical / Supporting Staff	10	50.0	7	35.0	3	15.0	20	7.8
Self employed	3	37.5	1	12.5	4	2.4	8	3.1
Others	1	14.3	3	42.9	3	42.9	7	2.7
χ^2 not significant, p=0.371								
Monthly Income								
Below RM 2,000	5	38.5	5	38.5	3	23.1	13	5.1
RM 2,000 - RM 5,000	35	35.0	34	34.0	31	31.0	100	39.2
RM 5,001 - RM 8,000	29	33.3	32	36.8	26	29.9	87	34.1
RM 8,001 - RM 10,000	3	12.5	14	58.3	7	29.2	24	9.4
RM 10,001 & above	13	41.9	9	29.0	9	29.0	31	12.2
χ^2 is not significant, p=0.433								

The result of the chi-square analysis presented in Table 4.14 shows that there is significant difference in terms of religiosity level between the male and female respondents. The result also reveals that there is significant difference between the three religious groups following the different in their years of age. It is found out that about 42.3% of the younger respondents from age group 20 to 29 years old belong to the devout group. In terms of education level, the results disclosed that more respondents with degree holders or professional qualification belong to the devout group and moderately

religious group. There is significant difference between the three religious groups with regards to their level of education. However, it was found that there is no significant difference in the religiosity level among the respondents from the three religious groups following the different in their occupation as well as their total monthly income.

4.3.2 Religiosity and Personal Banking Information of the Respondents

The result of the chi-square analysis presented in Table 4.15 reveals that there was no significant difference between the Islamic banking account holders with a conventional bank and the Islamic banking account holders with an Islamic bank among the three religious groups. It was reported that majority of the respondents from the three religious groups held their Islamic banking accounts with conventional banks.

Table 4.15 Chi-square Analysis of Type of Bank Account

Bank Account (χ^2 is not significant, p=0.202)	**Casually Religious**		**The Devout**		**Moderately Religious**	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**
Islamic banking account with a conventional bank	55	64.7	50	53.2	40	56.9
Islamic banking account with an Islamic bank	30	35.3	44	46.8	36	43.1
Total	85	100	94	100	76	100

4.4 Hypothesis Testing

To answer the hypotheses for the study, tools like bivariate correlation (Pearson correlation), an independent-samples t-test analysis and one-way ANOVA are used in SPSS. Pre-requisites or underlying assumptions such as normality test and reliability analysis are assessed prior the analysis. Below are the hypotheses for this study

H1 - There is positive relationship between Malay Muslims' religiosity and their perception on service quality

H2 – There is positive correlation between Malay Muslims' religiosity and the perception on compliance dimension of service quality

H3 - There is difference on perception of service quality between the devout and casually religious Muslim customers

H4 - There is difference between the different level of religious commitment among Malay Muslim customers and their perception on service quality

4.4.1 Pearson Correlation

The relationship between religiosity and perception on service quality of Muslim customers was investigated using Pearson's correlation. According to Pallant (2005), the value of the Pearson's correlation (r) indicates the strength of relationship between the two variables. The range can be from -1.00 to 1.00 and the negative or positive sign refers to the direction of the relationship. Cohen (1988) suggests the following guidelines to determine the strength of the relationship: small r = 0.10 to 0.29; medium r = 0.30 to 0.49 and large r = 0.50 to 1.0.

As depicted in Table 4.16, the result indicates that there is a significant positive relationship between religiosity and perception on service quality among Muslim customers ($r = 0.258$, $p < 0.05$), thus **HI** is accepted. However, it is observed that the coefficient of determination is quite low thus indicating that religiosity does not contribute much in explaining the variance in respondents' scores on the service quality perception.

Table 4.16 Correlations for Hypothesis 1 (H1)

		Religiosity	Service Quality
Religiosity	Pearson Correlation	1	.258**
	Sig. (2-tailed)		.000
	N	255	255
Service Quality	Pearson Correlation	.258**	1
	Sig. (2-tailed)	.000	
	N	255	255

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

The results in Table 4.17 below reveal that among the five dimensions of service quality, the compliance attribute has the strongest relationship with religiosity, r = 0.377 and followed by assurance, r = 0.257 with both dimensions show highly significant value (p = 0.000). Thus this provides support to **H2** that there is positive correlation between Muslims' religiosity and their perception on compliance dimension of service quality. The strength of the relationship between religiosity and compliance dimension is considered moderate as the correlation between the two variables are in medium range based on guidelines by Cohen (1988). There are also significant positive relationships between religiosity and the other three dimensions; tangibility, responsiveness and reliability with value of r equal to 0.208, 0.161 and 0.140 respectively. The strength of relationship is considered weak between religiosity and four dimensions; assurance, tangibility, responsiveness and reliability. However, it is observed that there is no significant relationship between religiosity and the customer's perception on the empathy dimension.

Table 4.17 Correlations Matrix for Religiosity and Service Quality Dimensions

Service Quality Dimensions	Religiosity		
	Pearson Correlation	Significant value	r^2
Compliance	.377**	.000	.142
Assurance	.257**	.000	.066
Reliability	.140*	.026	.019
Tangibility	.208**	.001	.043
Empathy	.110	.080	.012
Responsiveness	.161**	0.10	.026

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

4.4.2 Independent-Sample T-Test

An independent-samples t-test is used to compare the mean score for the two different groups of subjects. In this research, independent-samples t-test is applied to test the third hypothesis that is to find out whether there is any difference between the perception on service quality between the devout and casually religious Malay Muslim customers.

Table 4.18 shows descriptive statistics for the two groups.

Table 4.18 Group Statistics for Hypothesis 2 (H2)

	Religiosity	N	Mean	Std. Deviation	Std. Error Mean
Service Quality	Casually Religious	85	169.3412	17.09605	1.85433
	The Devout	94	179.0213	15.25340	1.57327

According to Coakes (2005), if the Levene's test has a probability greater than 0.05 then it can be assumed that the population variance are relatively equal and the 'equal variances assumed' column can be used for interpreting the t-test result. As presented in Table 4.19, the value for Levene's Test for Equality of Variances is 0.784 which is larger than the cut-off of 0.05 and this indicates that the variances are relatively equal. Therefore, the t-value from the 'equal variances assumed' column can be used. The two-tail significance is less than 0.05 thus there is a significant difference between the two groups. This indicates that the **H3** is accepted, significant differences exist on the perception of service quality between the devout and the casually religious Muslim.

According to Pallant (2005), the magnitude of the differences is commonly measured by eta squared that indicates the percentage of variance in the dependent variable which is explained by the independent variable. The guidelines proposed by Cohen (1988) for

interpreting this value are; 0.01=small effect, 0.06=moderate effect and 0.14=large effect. The eta square value is 8 percent and thus the effect size is considered moderate. It can be concluded that the 8 percent of the variance in the perception of service quality is explained by the level of religiosity of the Muslim customers.

Table 4.19 Independent Samples T Test for Hypothesis 2 (H2)

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Service Quality	Equal variances assumed	**.075**	**.784**	**-4.004**	**177**	**.000**	**-9.68010**	**2.41789**	**-14.45170**	**-4.90850**
	Equal variances not assumed			-3.981	169.247	.000	-9.68010	2.43181	-14.48069	-4.87951

The independent sample t-test is conducted to further observe the differences between the devout and the casually religious customers according to each dimension of service quality. Table 4.20 illustrated the descriptive statistics for the two groups of Muslim customers and the six service quality dimensions.

Table 4.20 Group Statistics for Religiosity and Service Quality Dimensions

	Religiosity	N	Mean	Std. Deviation	Std. Error Mean
Reliability	Casually Religious	85	46.7529	5.12209	.55557
	The Devout	94	48.4787	4.66681	.48134
Empathy	Casually Religious	85	35.7176	3.98393	.43212
	The Devout	94	36.9255	3.85277	.39738
Compliance	Casually Religious	85	25.3294	3.45511	.37476
	The Devout	94	27.7340	2.66872	.27526
Responsiveness	Casually Religious	85	24.4235	2.88418	.31283
	The Devout	94	25.6277	3.32790	.34325
Assurance	Casually Religious	85	19.2000	3.18030	.34495

	The Devout	94	20.8617	2.11803	.21846
Tangibility	Casually Religious	85	17.9176	3.10994	.33732
	The Devout	94	19.3936	2.72471	.28103

The result of an independent-samples t-test presented in Table 4.21 reveals that there are significant differences in the perception on each service quality dimensions between the devout and the casually religious group.

Table 4.21 Independent Samples T Test for Religiosity and Service Quality

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Reliability	Equal variances assumed	**.355**	**.552**	**-2.359**	**177**	**.019**	**-1.72578**	**.73164**	**-3.16965**	**-.28192**
	Equal variances not assumed			-2.348	170.610	.020	-1.72578	.73508	-3.17681	-.27475
Empathy	Equal variances assumed	**.626**	**.430**	**-2.061**	**177**	**.041**	**-1.20788**	**.58607**	**-2.36446**	**-.05131**
	Equal variances not assumed			-2.058	173.849	.041	-1.20788	.58706	-2.36657	-.04920
Compliance	Equal variances assumed	**2.007**	**.158**	**-5.238**	**177**	**.000**	**-2.40463**	**.45908**	**-3.31061**	**-1.49865**
	Equal variances not assumed			-5.171	157.640	.000	-2.40463	.46499	-3.32304	-1.48623
Responsiveness	Equal variances assumed	**1.195**	**.276**	**-2.574**	**177**	**.011**	**-1.20413**	**.46777**	**-2.12725**	**-.28101**
	Equal variances not assumed			-2.593	176.692	.010	-1.20413	.46442	-2.12065	-.28761
Assurance	Equal variances	16.048	.000	-4.150	177	.000	-1.66170	.40042	-2.45192	-.87148

	assumed Equal variances not assumed			**-4.070**	**143.974**	**.000**	**-1.66170**	**.40831**	**-2.46875**	**-.85465**
Tangibility	Equal variances assumed	**2.760**	**.098**	**-3.384**	**177**	**.001**	**-1.47597**	**.43614**	**-2.33667**	**-.61527**
	Equal variances not assumed			-3.362	167.981	.001	-1.47597	.43905	-2.34273	-.60921

Eta squared is then calculated to determine the magnitude of the differences (Pallant, 2001) between the casually religious and the devout group of Muslim customers in terms of their perception on the service quality dimensions. From Table 4.22, it can be seen that compliance has the highest eta value which is 13.4 percent. The value of eta squared indicates that the magnitude differences in the means for the devout and casually religious has a moderate effect as suggested by Cohen (1988). Following this guideline, the effect is considered moderate for assurance and tangibility and small for reliability, empathy and responsiveness. It is observed that the p values for compliance and assurance are highly significant (p = 0.000).

Table 4.22 Independent Samples T Test and Eta Squared value

	t value	Sig. (2 tailed)	Mean (SD)		Eta squared (%)
			Casually religious (N=85)	Devout (N=94)	
Reliability	-2.359	.019	46.75 (5.12)	48.48 (4.67)	0.03 (3.0 %)
Empathy	-2.061	.041	35.72 (3.98)	36.92 (3.85)	0.02 (2.3 %)
Compliance	-5.238	.000	25.33 (3.46)	27.73 (2.67)	0.13 (13.4 %)
Responsiveness	-2.574	.011	24.42 (2.88)	25.63 (3.33)	0.04 (4%)
Assurance	-4.070	.000	19.2 (3.18)	20.86 (2.12)	0.09 (9%)
Tangibility	-3.384	.001	17.92 (3.11)	19.39 (2.72)	0.06 (6.1 %)

Results as depicted in Table 4.23 show that there are significant differences in the service quality perception of the devout customers from the perception of casually religious customers in all the six dimensions of service quality. It is observed that the mean scores for the devout group were higher than those of the casually religious group in all service quality dimensions indicating that devout Muslim customers perceived that compliance,

assurance, reliability, tangibility, empathy and responsiveness as more important compared to the casually religious Muslim customer.

Table 4.23 Independent Samples T Test of the Casually Religious and the Devout

	Religiosity	N	Mean	Std. Deviation	t	Sig.	Mean Difference
Reliability	Casually Religious	85	46.7529	5.12209	-2.359	.019	-1.72578
	The Devout	94	48.4787	4.66681			
Empathy	Casually Religious	85	35.7176	3.98393	-2.061	.041	-1.20788
	The Devout	94	36.9255	3.85277			
Compliance	Casually Religious	85	25.3294	3.45511	-5.238	.000	-2.40463
	The Devout	94	27.7340	2.66872			
Responsiveness	Casually Religious	85	24.4235	2.88418	-2.574	.011	-1.20413
	The Devout	94	25.6277	3.32790			
Assurance	Casually Religious	85	19.2000	3.18030	-4.070	.000	-1.66170
	The Devout	94	20.8617	2.11803			
Tangibility	Casually Religious	85	17.9176	3.10994	-3.384	.001	-1.47597
	The Devout	94	19.3936	2.72471			

4.4.3 One-Way ANOVA

According to Pallant (2005), a one-way ANOVA is used when to test differences in a single interval dependent variable among three or more groups formed by the categories of a single categorical independent variable. The one way ANOVA tests whether the groups formed by the categories of the independent variable seem similar, specifically that they have the same pattern of dispersion as measured by comparing estimates of group variances. If the groups seem different, then it is concluded that the independent variable has an effect on the dependent variable.

The ANOVA procedure provides a method of rejecting the null hypothesis and accepting the alternative hypothesis that the groups' means are not equal, but it does not pinpoint exactly where the significant difference lies if there are more than two groups. To

ascertain whether the means of the different groups that integrate each of the variables are significantly different, post hoc tests can be used. Most often, post hoc tests do not use a single contrast, but instead test for differences among all possible combinations of groups.

ANOVA was performed to assess whether there are statistically significant differences between the perceptions of the devout, the moderately religious and the casually religious customers on the six service quality dimensions. The results of one way ANOVA are displayed in Table 4.24. Statistically, differences exist between the perception of the devout, the moderately religious and the casually religious customers on five out of six service quality dimensions namely reliability, compliance, responsiveness, assurance and tangibility therefore **H4** is accepted. However, it is noted that there is no significant difference with regards to the three groups' perception on the empathy dimension.

Table 4.24 ANOVA of Service Quality Dimensions

	Casually Religious (Mean)	The Devout (Mean)	Moderately Religious (Mean)	*F*	Sig.
Reliability	46.75	48.48	48.79	4.684	.010
Empathy	35.72	36.93	36.69	2.191	.114
Compliance	25.32	27.73	26.61	14.523	.000
Responsiveness	24.43	25.63	25.05	3.595	.029
Assurance	19.20	20.86	20.37	10.058	.000
Tangibility	17.92	19.39	17.91	7.930	.000

Post-hoc comparisons using the Tukey HSD test for compliance dimension indicates that significant differences exist in all across the three groups of Muslims customers as shown in Table 4.25 below. Based on the mean scores, the devout rated the compliance higher than the casually religious and moderately religious Muslims (M = 27.73 for the devout, M= 26.61 for the moderately religious group and M = 25.32 for the casually religious Muslim). Similarly, a significant contrast is found between the devout and the casually religious at a highly significant value (p = 0.000).

Table 4.25 Post-Hoc Tests for Compliance Dimension

(I) Religiosity	(J) Religiosity	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Casually Religious	The Devout	-2.40463*	.44618	.000	-3.4566	-1.3527
	Moderately Religious	-1.27585*	.47060	.020	-2.3854	-.1663
The Devout	Casually Religious	2.40463*	.44618	.000	1.3527	3.4566
	Moderately Religious	1.12878*	.45984	.039	.0446	2.2129
Moderately Religious	Casually Religious	1.27585*	.47060	.020	.1663	2.3854
	The Devout	-1.12878*	.45984	.039	-2.2129	-.0446

*. The mean difference is significant at the 0.05 level.

For reliability dimension, significant differences were found between the devout and casually religious customer (p = 0.036) and between the devout and the moderately religious customers (p = 0.016) as illustrated in Table 4.26. No significant difference was indicated between casually and moderately religious groups. As indicated by mean scores in Table 4.24, the devout and moderately religious group viewed reliability as being greater importance than casually religious Muslims.

Table 4.26 Post-Hoc Tests for Reliability Dimension

(I) Religiosity	(J) Religiosity	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Casually Religious	The Devout	-1.72578*	.69350	.036	-3.3608	-.0908
	Moderately Religious	-2.03653*	.73146	.016	-3.7611	-.3120
The Devout	Casually Religious	1.72578*	.69350	.036	.0908	3.3608
	Moderately Religious	-.31075	.71474	.901	-1.9959	1.3744
Moderately Religious	Casually Religious	2.03653*	.73146	.016	.3120	3.7611
	The Devout	.31075	.71474	.901	-1.3744	1.9959

*. The mean difference is significant at the 0.05 level.

With respect to the responsiveness dimension, a significant difference was found between the casually religious and the devout (p = 0.021). This is shown in Table 4.27 below. No

significant difference was indicated between casually and moderately religious groups. Based on the mean scores in Table 4.24, the devout and the moderately religious group viewed responsiveness dimension as more important than the casually religious group.

Table 4.27 Post-Hoc Tests for Responsiveness Dimension

(I) Religiosity	(J) Religiosity	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Casually Religious	The Devout	-1.20413*	.44908	.021	-2.2629	-.1454
	Moderately Religious	-.62910	.47366	.381	-1.7458	.4876
The Devout	Casually Religious	1.20413*	.44908	.021	.1454	2.2629
	Moderately Religious	.57503	.46283	.429	-.5162	1.6662
Moderately Religious	Casually Religious	.62910	.47366	.381	-.4876	1.7458
	The Devout	-.57503	.46283	.429	-1.6662	.5162

*. The mean difference is significant at the 0.05 level.

The results in Table 4.27 point that there is statistically significant difference between the casually religious and the devout Muslim with respect to the responsiveness dimension of service quality ($p = 0.021$).

Table 4.28 Post-Hoc Tests for Assurance Dimension

(I) Religiosity	(J) Religiosity	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Casually Religious	The Devout	-1.66170*	.37744	.000	-2.5516	-.7718
	Moderately Religious	-1.16842*	.39810	.010	-2.1070	-.2298
The Devout	Casually Religious	1.66170*	.37744	.000	.7718	2.5516
	Moderately Religious	.49328	.38900	.415	-.4238	1.4104
Moderately Religious	Casually Religious	1.16842*	.39810	.010	.2298	2.1070
	The Devout	-.49328	.38900	.415	-1.4104	.4238

*. The mean difference is significant at the 0.05 level.

For assurance dimension, significant differences were found between the devout and casually religious Muslim customers (p = 0.000) and between the casually religious and the moderately religious customers (p = 0.010) as illustrated in Table 4.28. The mean scores for the devout and moderately religious group are more or less the same in Table 4.24 thus indicating that both group values the courtesy of bank employees to convey trust and confidence in their overall perception on service quality.

Table 4.29 Post-Hoc Tests for Tangibility Dimension

(I) Religiosity	(J) Religiosity	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Casually Religious	The Devout	-1.47597*	.42869	.002	-2.4867	-.4653
	Moderately Religious	.00975	.45216	1.000	-1.0563	1.0758
The Devout	Casually Religious	1.47597*	.42869	.002	.4653	2.4867
	Moderately Religious	1.48572*	.44182	.003	.4441	2.5274
Moderately Religious	Casually Religious	-.00975	.45216	1.000	-1.0758	1.0563
	The Devout	-1.48572*	.44182	.003	-2.5274	-.4441

*. The mean difference is significant at the 0.05 level.

As illustrated in Table 4.29 above, for responsiveness dimension, a significant difference was found between the casually religious and the devout (p = 0.002) and the devout and the moderately religious group (p = 0.003). No significant difference was indicated between casually and moderately religious groups. Based on the mean scores in Table 4.24, the devout considered the tangibility dimension or service quality as more important than the casually and moderately religious group.

4.5 Conclusion

This chapter described the data analysis for the study. It started off with preliminary procedures, data screening, normality and reliability test. Then profile of the respondents was presented. The third section discusses and presented the results for the hypothesis of the study. From the testing using Pearson Correlation, both hypotheses H1 and H2 are

accepted. Based on independent-samples t-test results, H3 is accepted, significant differences exist on the perception of service quality between the devout and the casually religious Muslim. From the ANOVA results, there are significant differences between the three groups of Malay Muslims' religiosity level and their perceptions on service quality

The major findings of this research together with limitation of the study and recommendations for future research are discussed in the next chapter.