

CHAPTER 4

RESEARCH RESULTS

4.1 Introduction

This chapter discusses the results of the study. The study instruments are purified by analyses of item-to-total correlations, Cronbach's Alpha and factor loadings. As mentioned in the previous chapter, this study employs a structural equation model (SEM) technique to reveal the relationships among corporate image, service quality, perceived customer value, relationship quality and switching intention. A measurement model is validated using confirmatory factor analysis followed by results of a structural model.

4.2 Response Rate

As discussed in the methodology chapter, the data used in this study was gathered from Islamic banking customers in Malaysia. The survey conducted was distributed to one thousand Islamic banking customers. Of the one thousand questionnaires distributed, 605 surveys were returned. 149 surveys had more than 25% of the items unanswered, resulting in an effective sample of 456 usable completed questionnaires. This represented an effective response rate of 45.6 percent, and the sample is acceptable to conduct SEM analysis (Hair et al, 2006) which is used in this study.

4.3 Descriptive Characteristics

A number of variables have been used in order to describe the sample characteristics. The results shown in Table 4.1 indicate differences in the demographics of respondents including gender, race, religion, age, income, educational qualification, monthly income and marital status.

Table 4.1: Profile of Respondents (N=456)

Characteristics	Number of Respondents (N=456)	Valid Percentage (%)
Gender		
Male	191	41.9
Female	265	58.1
Race		
Malay	397	87.1
Chinese	25	5.5
Indian	14	3.1
Others	20	4.4
Religion		
Islam	416	91.2
Buddha	16	3.5
Hindu	10	2.2
Christian	14	3.1
Age		
20-29 years	195	42.8
30-39 years	146	32.0
40-49 years	91	20.0
50-59 years	22	4.8
More than 60 years	2	0.4
Monthly Income		
Less than RM1000	50	11.0
RM1000 – RM2,999	236	51.8
RM3000 – RM4,999	109	23.9
RM5000 – RM6,999	37	8.1
RM7000 – RM9,999	9	2.0
More than RM10,000	15	3.3

Table 4.1: Profile of Respondents (continuation)

Marital Status		
Married	266	58.3
Single	180	39.5
Divorced/Separated	10	2.2

Highest level of Education Received		
Primary School	5	1.1
Secondary School	69	15.1
Certificate	42	9.2
Diploma	121	26.5
Degree	167	36.6
Masters/Phd	52	11.4

As can be seen, the analysis of the final sample showed a higher number of female respondents (265) than male (191) respondents representing a ratio of 58.1 % and 41.9 % respectively. More than half of the total respondents, 266 of them are married (58.3%), 180 respondents are single (39.5%) and the remaining 10 respondents were (2.2%) either divorced or separated.

In terms of age group, the majority of the sample respondents are between the ages of 20 years old to 39 years old which represent 74.8 % of the total population. A total of 24 respondents were within the age range of 50 years old and above (5.4%).

Next, in terms of race, with a percentage of 87.1%, the Malays appear to be the dominant race in the sample. This was followed by Chinese (5.5%), others (4.4%) and Indians (3.1%). As for religion, Islam was the dominant religion (91.2%), followed next by Buddha (3.5%), Christian (3.1%) and Hindu (2.2%).

With respect to education, Table 4.1 shows that 121 of the respondents obtained a diploma (26.5%), 167 obtained an undergraduate degree (36.6%), and another 52 respondents (11.4%) had a postgraduate education. Finally, the monthly income of the respondents show that almost half of the respondents or 236 respondents (51.8%) earn between RM1,000 to RM2,999. This was followed by 109 (23.9%) respondents who earn between RM3,000 to RM4,999. Meanwhile another 61 respondents earn more than RM5,000 (13.4%).

4.4 Multicollinearity

Hair et al, (2006) suggest that assessing the multicollinearity in the multivariate level is not so straightforward and not as easy as detecting it in the bivariate level. One of the ways used in detecting multicollinearity is to check on the variables tolerance value. Tolerance can be defined as the amount of variability of the selected independent variable unexplained by other independent variables (Hair et al, 2006). If the tolerance values show less 0.1, it indicates a multicollinearity problem.

Additionally, to assess multicollinearity, this study used the value of the variance inflation (herein VIF). The VIF is the variance inflation factor, which is the reciprocal of tolerance. It is the ratio of a variable's total variance in standardized terms to its unique variance. Thus, the higher the VIF, the higher is the multicollinearity. Kline (1998) suggests that if the VIF values were above 10, then the variables may be redundant with others. Table 4.2 illustrates the multicollinearity test in the corporate image, service quality and customer perceived value constructs.

Table 4.2: Multicollinearity Diagnostics

Variables	Tolerance	VIF
Corporate Image		
Corporate Credibility	0.353	2.829
Reputation	0.480	2.082
Service Quality		
Tangibles	0.447	2.237
Reliability	0.256	3.902
Empathy	0.336	2.979
Customer Perceived Value		
Functional value	0.269	3.718
Functional value contact personnel	0.297	3.370
Emotional value	0.332	3.010
Social value	0.558	1.793

The corporate image construct comprise two dimensions, corporate credibility and reputation with each exhibiting a tolerance value of 0.353 and 0.480 respectively which is above the cut-off value of 0.1 as suggested by Hair et al.,(2006). The VIF for corporate credibility is 2.829 and for reputation the VIF is 2.082. The values also are not above the cut-off value of above 10 for VIF as suggested by Kline (1998).

The three dimensions for service quality, tangibles, reliability and empathy as seen from Table 4.2 exhibited a tolerance value of 0.447, 0.256 and 0.336 respectively. All values are above the cut-off value of 0.1 as suggested by Hair et al., (2006). Subsequently, VIF values for tangibles (2.237), reliability (3.902) and empathy (2.979) did not exceed more than 10 (Kline, 1998).

The customer perceived value dimensions comprise functional value, functional value contact personnel, emotional value and social value. From Table 4.2 the tolerance value for functional value is 0.269, for functional contact personnel 0.297, emotional value is 0.332 and social value is 0.558. All tolerance values are above the cut-off of 0.1 (Hair et al., 2006). The highest VIF is for functional value at 3.718 and the lowest VIF is social value at 1.793.

In sum, all tolerance values and VIF values were within the suggested recommended level and thus, multicollinearity does not exist for the constructs in this study.

4.5 Assessment of the Normality

The scale data was assessed to determine the normality distribution following the replacement of missing data with variable mean. Due to the assumption that factor analysis and structural equation modeling both require variables to be normally distributed, it was necessary to check the distribution of variables to be used in the analysis (Hair et al, 2006, Tabachnick and Fidell, 2001).

To diagnose the distribution of the variables, Box and Whisker and stem-and leaf plots were used in order to check for outliers. Outliers refer to “observations with a unique combination of characteristics identifiable as distinctly different from the observations” (Hair et al, 2006). These outliers could be very high or very low scores (extreme values), and could result in non-normality data and distorted statistics (Hair et al, 2006).

To check for any actual deviations from normality, the values for skewness and kurtosis was observed. Values for skewness and kurtosis should not be significant if the observed distribution is exactly normal. For large sample sizes, 200 and over (Hair et al, 1995), even small deviations from normality can be significant but not substantive.

A final consideration in confirming each measurement model is the choice of parameter estimates to be used. Maximum Likelihood Estimation (MLE) is efficient and unbiased when the assumption of multivariate normality is met (Hair et al, 2006). This study was conducted under the assumption of multivariate normality, therefore, MLE was the model estimation used in this study.

Table 4.3: Measures of Corporate Image and Descriptive Statistics

Items	Mean	SD	Skewness	Cronbach Alpha
Corporate credibility				
The bank delivers what it promises (cr1)	4.392	.765	.262	0.915
The bank's claims about its services are believable (cr2)	4.425	.789	.059	
The bank has a name you can trust (cr3)	4.752	.832	-.153	
The bank is competent and knows what it is doing (cr4)	4.438	.833	-.010	
The bank doesn't pretend to be what it isn't (cr5)	4.287	.783	.107	
The bank is skilled in what they do (cr6)	4.508	.775	-.029	
I trust my current bank (cr7)	4.666	.840	-.178	

Table 4.3: Measures of Corporate Image and Descriptive Statistics (continuation)

Reputation				
The bank is a socially responsible bank (rep1)	4.342	.810	.121	0.814
The bank operates in an Islamic working environment (rep2)	4.379	.843	.096	
The bank complies with Shariah rules and principles (rep3)	4.425	.819	.157	
The bank behaves responsibly towards the people in the communities where it operates (rep4)	4.359	.832	.049	
The bank is a financially sound bank(rep5)	4.543	.821	-.034	
The bank is a reliable and trustworthy bank (rep6)	4.653	.810	-.107	
The bank appears to support good causes (rep7)	4.528	.800	.100	
Multivariate normality = 14.90				

SD=standard deviation

The result of Table 4.3 indicate two items from the corporate credibility dimension has the highest score with mean 4.752 (SD = 0.832) and 4.666 (SD= 0.840). The range of skewness for corporate credibility is from 0.262 to -0.10. Kurtosis for corporate credibility dimension range from -0.596 to -0.247. None of the skewness values for corporate credibility is more than 0.562 thus there is no serious departure from normality (Bulmer, 1995). Cronbach's coefficient alpha for corporate credibility is at 0.915 which is above 0.60 as recommended by Nunnally (1978).

For the reputation dimension, two items has the highest score with mean 4.653 (SD= 0.810) and 4.543 (SD= 0.821) respectively. The range of skewness for reputation is from 0.157 to -0.034. Kurtosis also range from -0.034 to 0.157. The skewness values for reputation did not exceed 0.562, thus there is no serious departure from normality (Bulmer, 1995). Cronbach's coefficient alpha for reputation is at 0.814 which is above 0.60 as recommended by Nunnally (1978).

Table 4.4: Measures of Service Quality and Descriptive Statistics

Items	Mean	SD	Skewness	Cronbach Alpha
Tangibles				
The bank has up to date equipment (tan1)	4.530	.853	-.043	0.855
The bank's physical facilities are visually appealing (tan2)	4.552	.823	-.098	
The bank's employees are well dressed and appear neat (tan3)	4.565	.795	-.138	
Reliability				
When the bank promises to do something by a certain time, it does so (rel1)	4.304	.801	.113	0.920
When there is a problem, the bank is sympathetic and reassuring (rel2)	3.969	.994	-.451	
The bank is dependable (rel3)	4.342	.759	-.029	
The bank provides its services at the time it promises to do so (rel4)	4.372	.804	.063	

Table 4.4: Measures of Service Quality and Descriptive Statistics (continuation)

Responsiveness				
The bank tells its customers exactly when services will be performed(resp1)	4.368	.820	.043	
You receive prompt service from the bank(resp2)	4.335	.800	.070	
The bank employees are always willing to help customers(resp3)	4.418	.826	.026	
Assurance				
The bank employees are trustworthy (ass1)	4.370	.768	.024	
You feel safe when conducting transactions with the bank's employees (ass2)	4.473	.784	-.036	
The bank employees are polite(ass3)	4.456	.797	-.039	
Empathy				
The bank gives individual attention(emp1)	4.265	.831	.091	0.905
The bank employees give you personal attention(emp2)	4.203	.843	.194	
The bank employees know what your needs are(emp3)	4.234	.822	.184	
The bank has my best interest at heart(emp4)	4.223	.794	.159	
The bank has convenient operating hours(emp5)	4.418	.802	-.029	
Multivariate normality = 75.293				

The result of Table 4.4 indicate two items from the tangible dimension of the service quality construct has the highest score with mean 4.565 (SD = 0.795) and 4.552 (SD= 0.823).

The range of skewness for tangible dimension is from -0.043 to -0.138 and kurtosis values for the tangible dimension range from -0.617 to -0.412. The skewness values for tangibles did not exceed 0.562, which does not cause any serious departure from normality (Bulmer, 1995). Cronbach's coefficient alpha for tangibles is at 0.855 which is above 0.60 as recommended by Nunnally (1978).

Two items from the four items of the reliability dimension has the highest score with mean 4.372 (SD=0.804) and 4.342 (SD=0.759). Skewness for the reliability dimension range from -0.029 to 0.113. The values for kurtosis for the reliability dimension range from 0.463 to -0.445. Skewness values for reliability did not exceed 0.562 which does not cause any serious departure from normality (Bulmer, 1995). Cronbach's coefficient alpha for reliability is at 0.920 which is above 0.60 as recommended by Nunnally (1978).

From Table 4.4, the responsiveness dimension has three items. The highest mean score are 4.418 (SD=0.826), 4.368 (SD=0.820) and 4.335 (SD=0.800). Skewness for the responsiveness dimensions are 0.026, 0.043 and 0.070 respectively. The values for kurtosis for the responsiveness dimension are -0.549, -0.548 and -0.492. The skewness values for responsiveness did not exceed 0.562 which does not cause any serious departure from normality (Bulmer, 1995). Cronbach's coefficient alpha for responsiveness is at 0.826 which is above 0.60 as recommended by Nunnally (1978).

The assurance dimension in Table 4.4 has three items with the highest mean score of 4.473 (SD=0.784) and 4.456 (SD= 0.797). Skewness for the assurance dimension range from -0.039 to 0.024. Kurtosis values for the assurance dimension range from -0.463 to -0.402. The skewness values for assurance did not exceed 0.56 which does not cause any serious departure from normality (Bulmer, 1995). Cronbach's coefficient alpha for assurance is at 0.846 which is above 0.60 as recommended by Nunnally (1978).

The last dimension of the service quality construct is the empathy dimension. Two items from the five items has the highest mean score of 4.418 (SD=0.802) and 4.265 (SD= 0.831). Skewness for the empathy dimension range from -0.029 to 0.091 and the kurtosis values range from -0.480 to -0.639. The skewness values for empathy did not exceed 0.562 which does not cause any serious departure from normality (Bulmer, 1995). Cronbach's coefficient alpha for assurance is at 0.905 which is above 0.60 as recommended by Nunnally (1978).

Table 4.5: Measures of Customer Perceived Value and Descriptive Statistics

Items	Mean	SD	Skewness	Cronbach Alpha
Functional value				
The bank always delivers superior service(fncval1)	4.364	.792	.080	0.894
The Islamic banking products and services of this bank are of high quality(fncval2)	4.339	.782	.126	
The quality of the service of this bank is consistently good(fncval3)	4.368	.790	-.111	
The Islamic banking products and services of this bank make me feel confident (fncval4)	4.403	.769	.065	

**Table 4.5: Measures of Customer Perceived Value and Descriptive Statistics
(continuation)**

Functional value contact personnel				
	4.381	.766	.051	0.859
The personnel know their job well(fvcontper1)				
The personnel's knowledge about Islamic banking products and services is up to date (fvcontper2)	4.293	.782	.068	
The information provided by the personnel has always been very valuable to me (fvcontper3)	4.357	.788	.113	
The personnel has knowledge of all the Islamic banking services offered by the bank(fvcontper4)	4.300	.800	.050	
Emotional value				
The Islamic banking service of this bank is the one that I would enjoy(emoval1)	4.291	.770	.112	0.866
The Islamic banking service of this bank is the one that I would feel relaxed about using it(emoval2)	4.331	.745	-.047	
The Islamic banking service of this bank would give me pleasure (emoval3)	4.346	.789	.003	
Social value				
Using Islamic banking services would improve the way I am perceived by others (socval1)	4.407	.846	.182	0.842
Using Islamic banking services would make a good impression on other people(socval2)	4.278	.816	.225	
Using Islamic banking services would help me feel acceptable by others (socval3)	3.958	1.099	-.664	
Multivariate normality = 60.348				

SD=standard deviation

From Table 4.5, customer perceived value comprise four dimensions. The functional value dimension has four items. The two highest mean score from the functional value dimension are 4.403 (SD=0.769) and 4.368 (SD=0.790). The skewness values for this dimension range from -0.111 to 0.126. The kurtosis values range from -0.368 to -0.559. Cronbach's coefficient alpha for functional value is 0.894 which is above 0.60 as recommended by Nunnally (1978).

There are four items for the functional contact personnel dimension. The two highest mean score are 4.381 (SD=0.766) and 4.357 (SD=0.788). The skewness values for the contact personnel dimension range from 0.050 to 0.113 and the kurtosis values range -0.375 to -0.544. The skewness values for functional contact personnel did not exceed 0.562 which does not cause any serious departure from normality. Cronbach's coefficient alpha for functional value contact personnel is 0.859 which is above 0.60 as recommended by Nunnally (1978).

Three items were used for the emotional value dimension. The three items have a mean score of 4.346 (SD= 0.789), 4.331 (SD=0.745) and 4.291 (SD=0.770) respectively. The skewness values range from -0.047 to 0.112. Kurtosis values range from -0.389 to -0.500. The skewness values for emotional did not exceed 0.562 which does not cause any serious departure from normality (Bulmer, 1995). Cronbach's coefficient alpha for emotional value is 0.886 which is above 0.60 as recommended by Nunnally (1978). The social value dimensions in Table 4.5 have three items. The items have a mean score of 4.407 (SD=0.846), 4.278 (SD=0.816) and 3.958 (SD=1.099).

Skewness values are 0.182, 0.225 and -0.664 while the kurtosis values are -0.548, -0.434 and 0.578 respectively. The skewness values for social value did not exceed 0.562 which does not cause any serious departure from normality (Bulmer, 1995). Cronbach's coefficient alpha for social value is 0.842 which is above 0.60 as recommended by Nunnally (1978).

Table 4.6: Measures of Relationship Quality and Descriptive Statistics

Items	Mean	SD	Skewness	Cronbach Alpha
Commitment				
I feel emotionally attached to my current bank(affcomm1)	3.789	1.193	-.484	
My relationship with my current bank is important to me (affcomm2)	4.261	.792	.191	
I have a strong sense of loyalty toward my current bank (affcomm3)	3.993	1.110	-.645	
It pays off economically to be a customer of this bank(calcomm1)	4.002	1.096	-.446	
This bank has location advantages versus other banks(calcomm2)	4.087	1.109	-.610	
It would be too costly for me to switch from this bank right now(calcomm3)	3.780	.867	-.414	
I am satisfied with my decision to deal with this bank (sat1)	4.350	.784	.182	
My choice to use this bank was a wise one(sat2)	4.322	.824	.190	
This is one of the best banks I could have chosen(sat3)	4.326	.809	.236	
Using this bank has been a good experience(sat4)	4.350	.784	.063	

From Table 4.6, commitment and satisfaction are two dimensions of relationship quality. The two items from six items have the highest mean score of 4.261 (SD= 0.792) and 4.087 (SD= 1.109). The skewness values range from -0.414 to -0.645 and kurtosis values range from -0.415 to 0.040. Cronbach's coefficient alpha for commitment value is 0.842 which is above 0.60 as recommended by Nunnally (1978).

There are four items for satisfaction as depicted in Table 4.6. The mean scores are 4.350 (SD= 0.784), 4.326 (SD=0.809), 4.322 (SD= 0.824) and 4.302 (SD=0.779). Skewness values range from 0.063 to 0.236 and kurtosis values range from -0.477 to -0.291. The skewness and kurtosis values did not exceed three and ten respectively which does not cause any serious departure from normality. Cronbach's coefficient alpha for satisfaction value is 0.881 which is above 0.60 as recommended by Nunnally (1978).

4.6 Exploratory Factor Analysis (EFA)

EFA is a technique for data exploration and to determine the structure of factors to be analyzed. It is used to establish dimensionality and convergent validity of the relationship between items and constructs. Besides determining the validity of measurements, the objective of doing factor analysis in this study was to identify representative variables and to create new variables, if any to be used in the subsequent analysis. The idea was to obtain the most parsimonious set of variables to be included in the analysis.

To justify the application of factor analysis in this study, the measure of sampling adequacy, a statistical test to quantify the degree of inter-correlations among the variables (Hair et al, 2006) was used. The measure of sampling adequacy uses the

Bartlett's Test of Sphericity (Barlett's test) and Kaiser-Mayer-Olkin (KMO). The Bartlett's test should be significant ($p < 0.05$) for the factor analysis to be considered appropriate and the measure of sampling adequacy produces the KMO index that ranges from 0 to 1, indicates that KMO more than 0.60 are considered appropriate for factor analysis.

In this study, the factor analysis under the extraction method of principal component analysis with the rotation method of varimax with Kaiser Normalization was used to analyze the scales. Varimax rotation was favored since it minimized the correlation across factors and maximized within the factors. Factor loading indicate the strength of the relationship between the item and the latent construct and thus, is used to ascertain the convergent and discriminant validity of the scales (Hair et al, 2006). Nunnally (1978) posits that items with loadings higher than 0.50 on one factor are retained for further analysis and this coefficient of 0.50 and above has been used in this study. Table 4.7 to Table 4.9 shows the results of the factor analysis of the constructs.

Table 4.7: Exploratory Factor Analysis of Corporate Image

Factors/Items	Factor Loading
Corporate Image KMO= 0.930 Barlett's : Sig = 0.000	
Factor 1: Corporate Credibility	
The bank delivers what it promises	0.682
The bank's claims about its services are believable	0.678
The bank has a name you can trust	0.749
The bank is competent and knows what it is doing	0.760
The bank doesn't pretend to be what it isn't	0.644
The bank is skilled in what they do	0.646
I trust my current bank	0.715

Table 4.7: Exploratory Factor Analysis of Corporate Image (continuation)

Factor 2: Reputation

The bank is a socially responsible bank	0.662
The bank operates in an Islamic working environment	0.840
The bank complies with Shariah rules and principles	0.815
The bank behaves responsibly towards the people in the communities where it operate	0.641

From Table 4.7 the KMO for corporate image is 0.930 which is more than the recommended level of 0.60 and the Bartlett's Test of Sphericity is significant at $p = 0.00$ (Hair et al., 2006). Therefore the values are considered to be appropriate for factor analysis. Also, factor loadings for all items in corporate credibility range from 0.644 to 0.760.

This indicates all items are above 0.50 and are retained for further analysis (Nunnally, 1978). All items in the reputation dimension have factor loadings that range from 0.641 to 0.840. As the factor loadings are above 0.50 all the above items can be retained for further analysis.

Table 4.8: Exploratory Factor Analysis of Service Quality

Factors/Items	Factor Loading
Service Quality KMO= 0.962 Barlett's : Sig = 0.000	
Factor 1 :Tangibles	
The bank has up to date equipment	0.795
The bank's employees are well dressed and appear neat	0.720
The appearance of the physical facilities of the bank is in keeping with the type of service provided	0.626

Factor 2: Reliability	
The bank is dependable	0.645
The bank provides its services at the time it promises to do so	0.681
The bank tells its customers exactly when services will be performed	0.672
You receive prompt service from the bank	0.716
Factor 3 : Empathy	
The bank gives individual attention	0.694
The bank employees gives you personal attention	0.757
The bank employees know what your needs are	0.822

From Table 4.8 the KMO for service quality is 0.962 which is more than the recommended level of 0.60 and Bartlett's Test of Sphericity is significant at $p = 0.00$ (Hair et al.,2006). Therefore the values are considered to be appropriate for factor analysis.

The factor loadings for all items in the tangibles dimension range from 0.626 to 0.7695 which is above 0.50 (Nunnally, 1978) and all items are retained for further analysis.

All items in the reliability dimension have a factor loading of above 0.50 with the highest factor loading of 0.716 and the lowest factor loading of 0.645. Therefore, all items can be retained for further analysis. Items in the empathy dimension also have factor loadings of 0.694, 0.757 and 0.822 respectively. Thus, all items are retained for further analysis as the items have factor loadings above 0.50 (Nunnally, 1978).

Table 4.9: Exploratory Factor Analysis of Customer Perceived Value

Factors/Items	Factor Loading
Customer Perceived Value KMO= 0.952 Barlett's : Sig = 0.000	
Factor 1: Functional value	
The Islamic banking products and services of this bank are of high quality	0.776
The quality of the service of this bank is consistently good	0.762
The Islamic banking products and services of this bank make me feel confident	0.607
Factor 2: Functional value contact personnel	
The personnel know their job well	0.502
The personnel's knowledge about Islamic banking products and services is up to date	0.769
The information provided by the personnel has always been very valuable to me	0.700
Factor 3: Emotional value	
The Islamic banking service of this bank is the one that I would enjoy	0.731
The Islamic banking service of this bank is the one that I would feel relaxed about using it	0.769
The Islamic banking service of this bank would give me pleasure	0.695
Factor 4: Social value	
Using Islamic banking services would improve the way I am perceived by others	0.749
Using Islamic banking services would make a good impression on other people	0.769
Using Islamic banking services would give its owners social approval	0.754

From Table 4.9 the KMO for customer perceived value is 0.962 which is more than the recommended level of 0.60 and Bartlett's Test of Sphericity is significant at $p = 0.00$ (Hair et al.,2006). Therefore the values are considered to be appropriate for factor analysis. The factor loadings for all items in the functional value dimension are 0.776, 0.762 and 0.607 which are above 0.50 (Nunnally, 1978) and all items are retained for further analysis.

For the functional value contact personnel, factor loadings for all three items range from 0.700 to 0.502. The factor loadings for factor three (emotional value) also range from 0.695 to 0.769 and factor loadings for factor four (social value) range from 0.769 to 0.749. All factor loadings are above 0.50 and according to Nunnally (1978) are retained for further analysis.

4.7 Analysis and Results of Structural Equation Modeling

Structural equation modeling (SEM) is used to test the hypotheses arising from the theoretical model. In order to perform the SEM analysis, the two stage approach recommended by Anderson and Gerbing (1988) was adopted.

In the first stage (measurement model), the analysis was conducted by specifying the causal relationships between the observed variables (items) and the underlying constructs. For this purpose, confirmatory factor analysis using AMOS 16 was performed. Following this, the paths or causal relationships between the exogenous and endogenous constructs were specified in the structural model (second stage). Analysis and results related to these two stages are further discussed next.

4.7.1 Stage One: Measurement Model

This section covers the specification of the measurement model for each underlying construct with a discussion of the path diagram. Then, it describes the use of multi-item scales to measure each factor in the measurement model.

This is followed with a description of the procedures that were conducted to modify the measurement model. As the starting point in the measurement model, each factor of the underlying constructs has the appropriate number of items or indicators. In confirming each measurement model, it may be the case that some items in the scales become redundant, and as such the measurement model needs to be respecified by removing these redundant items (Jöreskog and Sörborm, 1996, Hair et al, 1995, Kline, 2005). In this way, parsimonious unidimensional constructs are obtained (Anderson and Gerbing, 1988). The rationale for the above process includes two main considerations as recommended by Kline (2005). First, indicators specified to measure a proposed underlying factor should have relatively high-standardized loadings of that factor which is typically 0.5 or greater.

Second, estimated correlations between the factors should not be greater than 0.85 (Kline, 2005) as there may be overlap between factors and thus they are empirically not distinguishable. These two considerations are made in conjunction with the overall goodness-of-fit indices to suggest acceptance of unidimensionality for each model. A more detailed evaluation of model fit can also be obtained by an inspection of the normalized residual and modification indices (Jöreskog and Sörborm, 1996, Hair et al, 2006).

Residuals more than ± 2.58 are indicative of a specification error in the model, whereas modification index value greater than 3.84 shows that the chi-square should be significantly reduced when the corresponding parameter is estimated (Hair et al, 2006).

In this study, the evaluation of the measurement model is not only based on statistical principals, but also on a theoretical justification (Anderson and Gerbing, 1988, Hair et al, 2006). The results of testing each construct: corporate image, service quality, customer perceived value and relationship quality is now discussed.

4.7.2 Corporate image

Corporate image were measured using two factors. Each of these factors has been measured by a number of questionnaire items. In total, 7 items were used to measure the corporate image construct. Corporate credibility were measured by seven questionnaire items as on page 139 and are labeled as cr1,cr2,cr3,cr4,c5,cr6 and cr7 respectively. Reputation is measured by seven items as on page 139 and are labeled as rep1, rep2, rep3, rep4, rep5, rep6 and rep7 respectively.

Initial results of the second order CFA indicated that the initial measurement model indices did not adequately fit the model although standardized parameter estimates were all significant ($p < 0.001$), The chi-square was ($\chi^2 = 477.09$, $df = 76$, $p = 0.000$, $N = 456$). The GFI was 0.858, CFI= 0.883, RMSEA = 0.108 and $\chi^2/df = 6.286$. After removing redundant items, which are cr1, cr3, cr5, cr7, rep2, rep5, rep7, the CFA was performed again with the seven items removed.

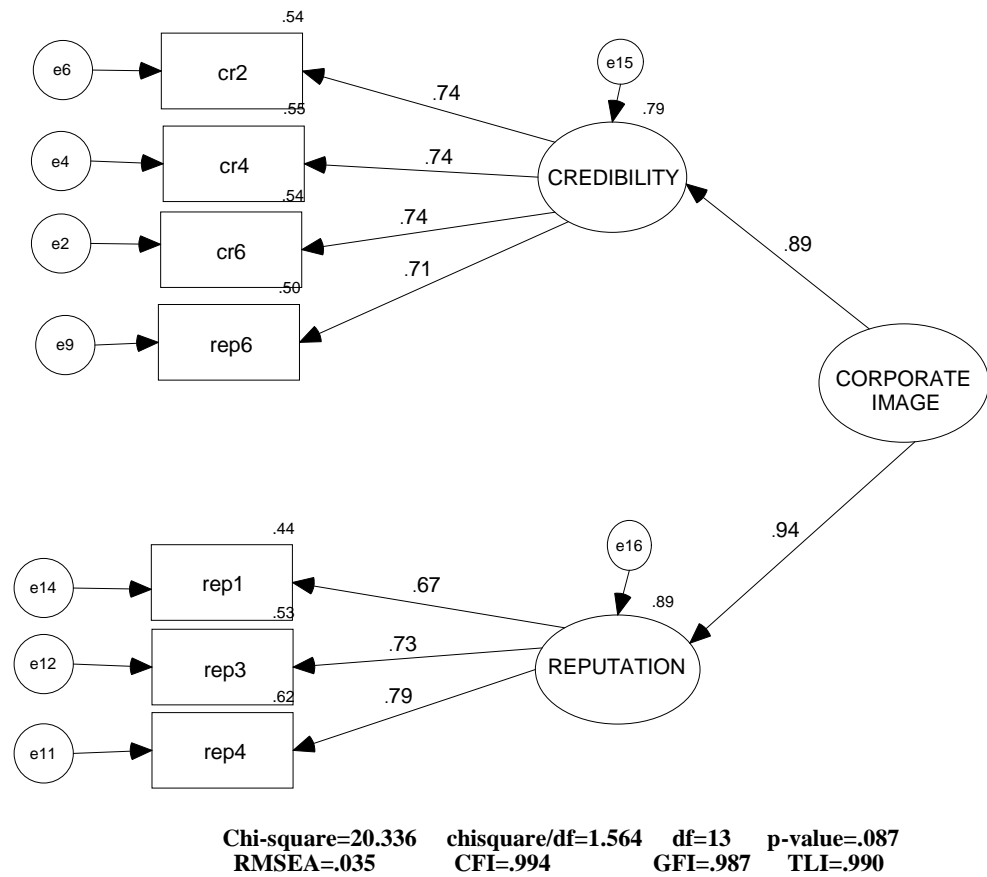


Figure 4.1 A 2nd Order CFA Output Model for Corporate Image

As presented in Figure 4.1, the standardized factor loadings for these measures ranging from 0.79 to 0.67 were all high and above the recommended level of 0.5. This indicates that these measures were deemed to be statistically significant ($p < 0.001$). The goodness of fit indices were improved, the modified model showed a better fit to the data ($\chi^2 = 20.336$, $df = 13$, $p = 0.087$, $N = 456$). The GFI was 0.987, CFI = 0.994, RMSEA = 0.035 and $\chi^2/df = 1.564$. Therefore these indices were sufficient and within the recommended level.

4.7.3 Service Quality

The service quality factor model was measured using three separate factors: tangibles, reliability and empathy as shown in Figure 4.2. In total, 11- items were used to measure the service quality construct. Tangibles were measured by three items labeled tan1, tan3, tan4; reliability were measured by five items labeled rel3, rel4, rel5, resp1, resp2 and empathy were measured by three items labeled emp1, emp2, and emp3. All service quality items which are labeled are found on page 141.

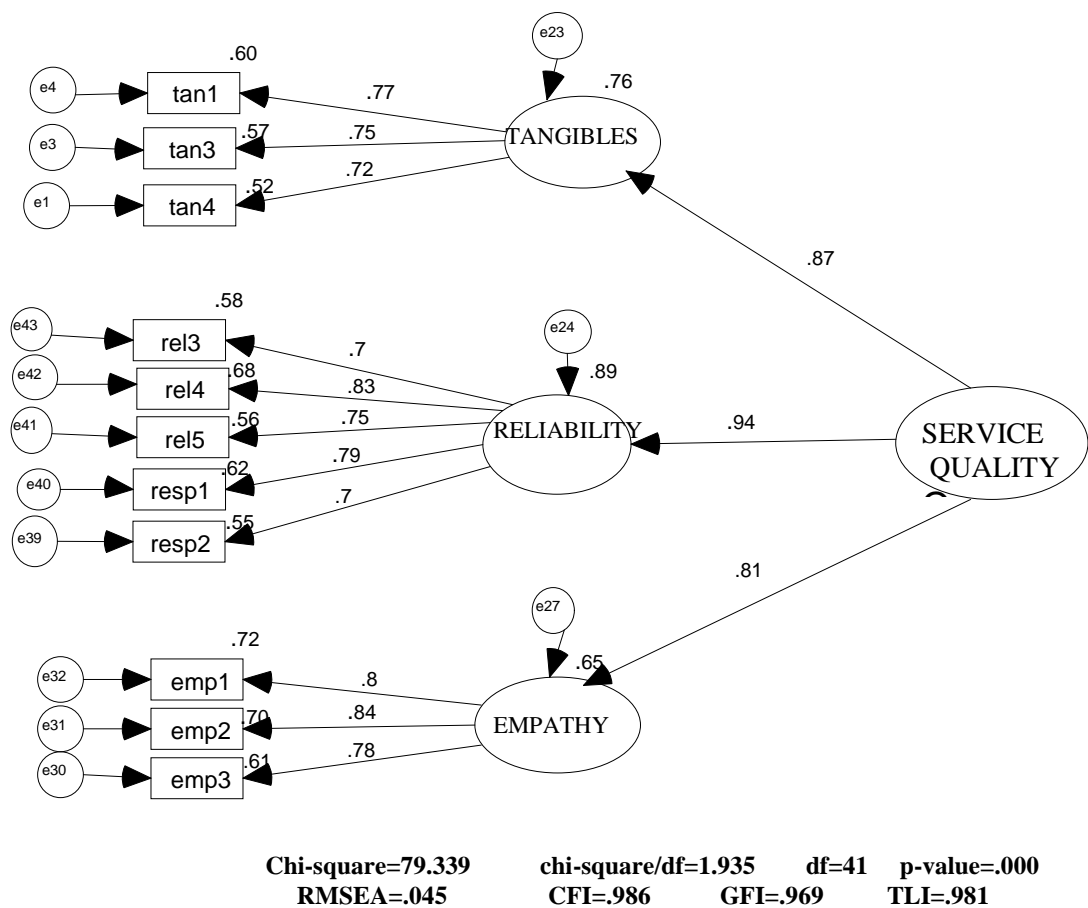


Figure 4.2 A 2nd Order CFA Output Model for Service Quality

As presented in Figure 4.2, the standardized factor loadings for tangibles measure range from 0.72 to 0.77. All standardized factor loadings were all high and above the recommended level of 0.5 (Hair et al., 2006). Reliability indicators show standardized factor loadings above 0.50 with the highest value at 0.83 and the lowest factor loading at 0.74. High standardized factor loadings were also found for the empathy dimension with the highest factor loading at 0.85 and the lowest factor loading at 0.78. This indicates that these measures were deemed to be statistically significant ($p < 0.001$).

Results of the second order CFA measurement model in Figure 4.2 showed the model fits the data adequately with all indices sufficient and within the recommended level. The results indicate that this model fits the data adequately ($\chi^2 = 79.339$, $df = 41$, $p = 0.000$, $N = 456$). The GFI was 0.969, CFI= 0.986, RMSEA = 0.045 and $\chi^2/df = 1.935$.

4.7.4 Customer Perceived Value

The measurement model for customer perceived value was analyzed using four factors (functional value, functional value of contact personnel, emotional value and social value). In total, 12-items represented the four factors of customer perceived value to CFA analysis.

Functional value was measured using four items (fncval1 to fncval4), functional value contact personnel was measured using four items (fvcontper1 to fvcontper4), emotional value was measured using three items (emoval1 to emoval3) and social value was measured using four items (socval1 to socval4). All questionnaire items with items labeled are found on page 144.

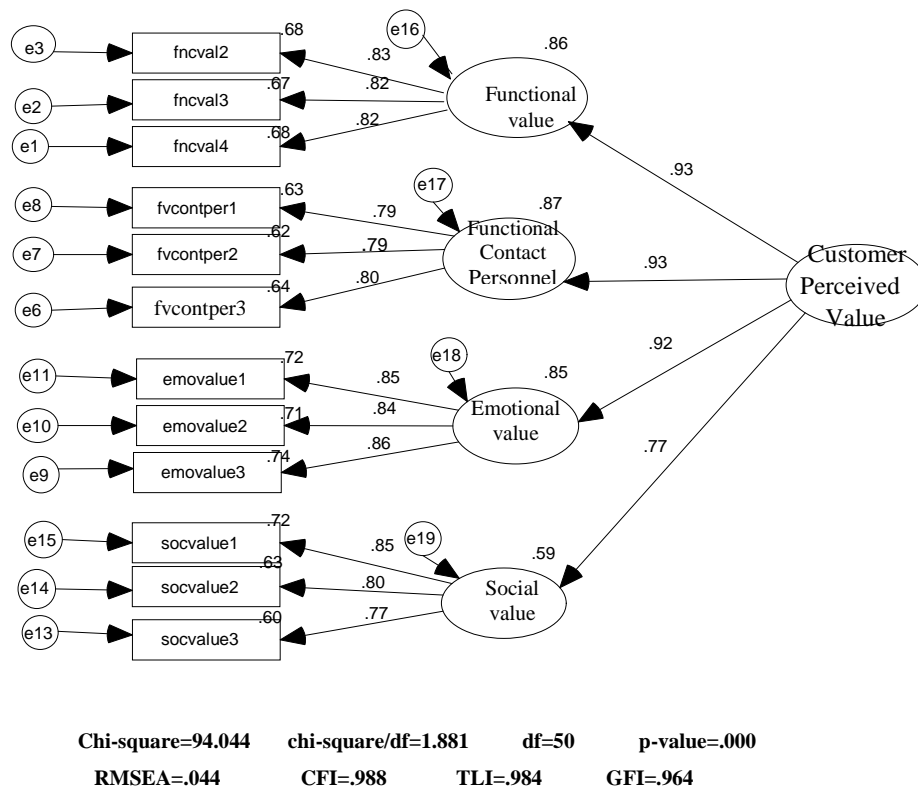


Figure 4.3 A 2nd Order CFA Output Model for Customer Perceived Value

The standardized factor loadings for functional value indicators were all high as in Figure 4.3 with fncval2 = 0.83, fncval3= 0.82 and fncval4 = 0.82. Standardized factor loadings for functional contact personnel were at 0.80 and 0.79 respectively. The emotional and social values dimensions all show standardized factor loadings above 0.50 with the highest factor loading for emotional value at 0.86 and for social value at 0.80. The lowest standardized factor loading was for social value 3 at 0.77. This indicates that these measures were deemed to be statistically significant ($p < 0.001$).

As shown in Figure 4.3, the model adequately fit the data. The ($\chi^2 = 94.044$, $df = 50$, $p = 0.000$, $N = 456$) The GFI was 0.964, CFI= 0.988, TLI=0.984, RMSEA = 0.044 and $\chi^2/df = 1.881$ and most of the goodness of-fit indices were within the acceptable recommended level.

4.7.5 Relationship Quality

The measurement model of relationship quality was analyzed using two factors. In total 10-items represented the two factors of relationship quality. Commitment was measured by six items (affcomm1 to affcomm3 and calcomm1 to calcomm3). Satisfaction was measured using four items (sat1 to sat4). All questionnaire items which are labeled are found on page 147.

Initial standardized estimation of the model showed two items (calcomm2 and calcomm3) had loadings less than the recommended level of 0.5(0.46 and 0.48 respectively). These two items were deleted which improved the model and the goodness-of-fit indices were all within the recommended level.

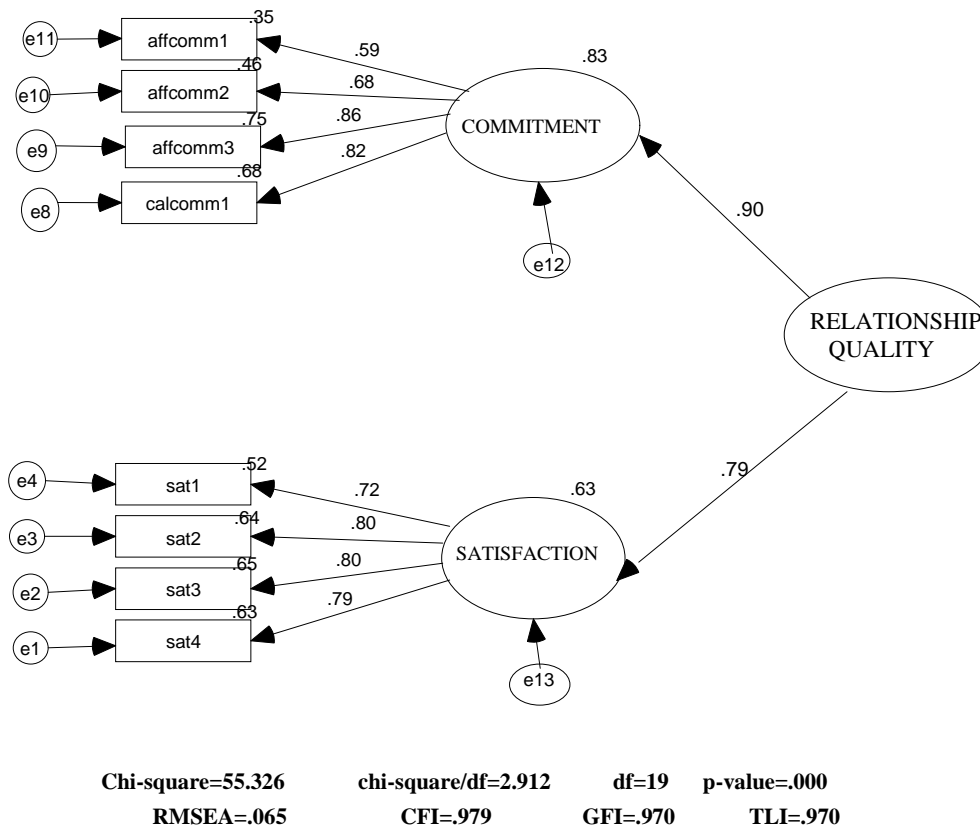


Figure 4.4 A 2nd Order CFA Output Model for Relationship Quality

Standardized factor loadings for commitment were all high with factor loadings ranging from 0.59 to 0.86 and above the recommended level of 0.50 (Hair et al, .2006). Items for satisfaction also display high factor loadings at 0.72 (sat1), 0.79 (sat 4) and 0.80 (sat2 and sat3). This indicates that these measures were deemed to be statistically significant ($p < 0.001$).

As shown in Figure 4.4, the model adequately fit the data ($\chi^2 = 55.326$, $df = 19$, $p = 0.000$, $N = 456$). The GFI was 0.970, CFI= 0.979, RMSEA = 0.065 and $\chi^2/df = 2.912$. Most of the goodness of-fit indices were within the acceptable recommended level.

4.8 Reliability Test – Using Structural Equation Modeling

According to Hair et al, (2006), reliability is also an indicator of convergent validity and SEM approaches to estimating scale and item reliability are designed to overcome limitation associated with coefficient alpha.

In SEM, the value associated with each latent variable-to-item equation measures the reliability of that individual item (Garver and Mentzer, 1999). The stronger the correlation of the systematic component, the higher the reliability associated with the indicator to its latent variable. Therefore, in this study, the results of construct reliability, is often used in conjunction with SEM models, are also presented in order to prove that convergent validity exist for the constructs of study.

It is computed from the squared sum of factor loading (λ) for each construct and the sum of the error variance terms for a construct (δ) whereby the measurement error is one minus the square of the indicator's standardized parameter estimate, as;

$$\text{Construct Reliability} = \frac{\sum_{i=1}^n [\lambda_i]^2}{\sum_{i=1}^n [\lambda_i]^2 + \sum_{i=1}^n [1 - \lambda_i^2]}$$

The rule of thumb for the reliability estimates is that 0.7 or higher. This suggests a good reliability (Hair et al, 2006).

However, Hatcher (1994) suggests that the reliability estimates of 0.6 and above are considered reasonable for exploratory study. Table 4.6 presents the result of the construct reliability for corporate image, service quality and customer perceived value.

Table 4.10: Variance Extract and Construct Reliability for Constructs

Constructs	Variance Extracted	Construct Reliability
Corporate Credibility	0.536	0.885
Reputation	0.535	0.771
Tangibles	0.558	0.839
Reliability	0.600	0.919
Empathy	0.679	0.940
Functional Value	0.678	0.885
Functional Value	0.629	0.875
Contact Personnel		
Emotional Value	0.723	0.886
Social value	0.652	0.853

The results in Table 4.10 exhibit that the construct reliability value for all latent variables or factors in this study were above 0.6, ranging from 0.771 (reputation) to 0.940 (empathy) as suggested by Hatcher (1994). This is to prove for the existence of reliability. A complementary measure of construct reliability is the variance extract measure (Hair et al, 2006). It measures the total amount of variance in the indicators accounted for by the latent variable, and higher values occur when the indicators are truly representative of the latent construct.

The formula is comparable to construct reliability, except that the numerator is equal to the standardized parameter estimates (λ) between the latent variable and its indicators squared, and then summed. The denominator equals the numerator plus the added measurement error for each item. The measurement error is one minus the square of the indicator's standardized parameter estimate.

$$\text{Variance Extract} = \frac{\sum \lambda_i^2}{\sum \lambda_i^2 + \sum_{i=1}^n (1 - \lambda_i^2)}$$

By using the same logic, a variance extracted which is less than 0.5 indicates that, on average, more error remains in the items than the variance explained by the latent factor structure in the measurement model (Hair et al, 2006). Hatcher (1994) acknowledges that some variance extract may fall below 0.5, but this is may not be of concern since previous studies show that it is quite frequent to find estimates below 0.5 even when the construct reliability is acceptable.

From Table 4.6, the variance extract for the constructs range between 0.535 (reputation) to 0.723 (emotional value) which is greater than 0.5 and thus the cut off values assures that at least 50 percent or more of the variances in the observed variables are explained by the set of indicators. Thus, we can assume that the constructs in the model are reliable as the measures of variance extract supersede the value outlined in the literature.

4.8.1 Discriminant Validity

Presented in a matrix, Table 4.7 exhibits the outcomes pertaining to the discriminant validity of each construct proposed in the model. All average variance extracted values are reported diagonally while the squared correlation values are shown below the diagonal

Table 4.11: Discriminant validity of constructs

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Credibility	0.536								
(2) Reputation	0.446	0.535							
(3) Tangibles	0.404	0.256	0.558						
(4) Reliability	0.515	0.329	0.469	0.600					
(5) Empathy	0.338	0.300	0.326	0.444	0.679				
(6) Functional value	0.488	0.336	0.388	0.476	0.412	0.678			
(7) Functional Value Contact Personnel	0.438	0.332	0.354	0.446	0.450	0.547	0.629		
(8) Emotional value	0.402	0.331	0.315	0.412	0.352	0.561	0.531	0.723	
(9) Social Value	0.283	0.214	0.218	0.301	0.275	0.346	0.366	0.304	0.652

Note: Diagonals represent the average variance extracted while the other entries represent the squared correlations

From Table 4.11 the results show all variance extracted values are greater than the corresponding squared correlation estimates. The highest variance extracted value is 0.723 (emotional value) while the lowest variance extract value is 0.535 (reputation). Therefore, this indicates the presence of discriminant validity for all variables in the study and the constructs are distinct.

4.9 The Structural Model

Once all constructs in the measurement model (stage one) were validated and satisfactory fit achieved (Anderson and Gerbing, 1988; Hair et al, 2006; Kline, 2005), as structural model can then be rested and presented as a second and main stage of the analysis. The structural model aims to specify which latent constructs directly or indirectly influence the values of other latent constructs in the model.

Hence, the purpose of the structural model in this study is to test the underlying hypotheses in order to answer the research questions outlined in Chapter One.

To evaluate the structural model, goodness-of-fit indices are examined to assess if the hypothesized structural model fits the data. If it did not, the requirement was to respecify the model until one was achieved that exhibited both acceptable statistical fit and indicated a theoretically meaningful representation of the observed data (Anderson and Gerbing, 1988; Hair et al, 2006; Kline 2005).

4.9.1 The Hypothesized Model

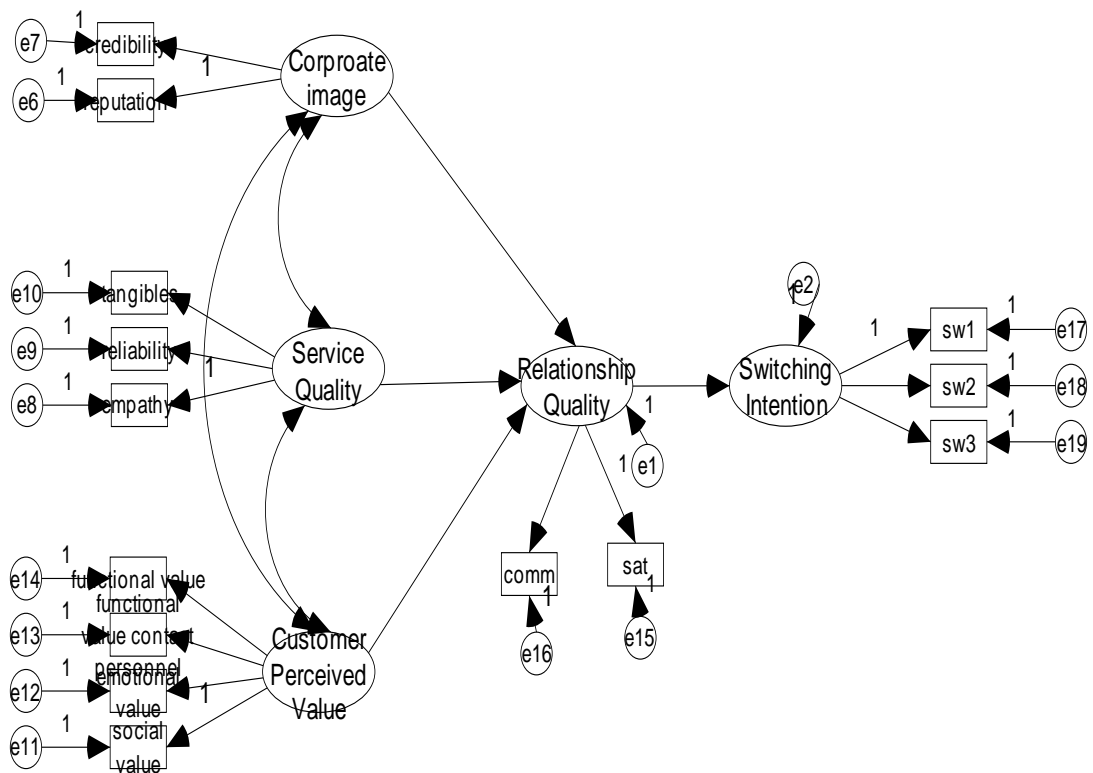


Figure 4.5 The Path Diagram of Hypothesized Full Structural Model

In SEM, the hypothesized relationships can be presented in the form of a path diagram. In Figure 4.5, the SEM diagram in this study consists of the constructs corporate image, service quality, customer perceived value, relationship quality and switching intention, and arrows representing relationships between the variables.

The single-headed arrows in the diagram represent linear dependencies indicating the extent to which one variable (construct) is dependent on another. For instance, the arrow connecting corporate image with relationship quality represents a direct relationship that is hypothesized between these two variables. In the diagram, correlations or covariance between the variables are represented as double-headed arrows, as seen in the relationship between corporate image, service quality and customer perceived value. No causal path is hypothesized for the double-headed arrows but a relationship between the variables is assumed. Measurement errors have been represented as (ϵ) and enclosed in small circles.

The analyses of the hypothesized structural model were conducted by testing the hypothesized model, which specified the causal relationships. Based on procedures by Bagozzi and Dholakia (2006), the hypothesized fully mediated model needs to be compared to a partially mediated model in which direct paths from the independent variables are added to the dependent variable. The comparison is done with chi-square difference test to conclude whether the relationship is fully or partially mediated. The fit statistics and indices and the statistical significant path will also be examined but the focus is on the chi-square difference test.

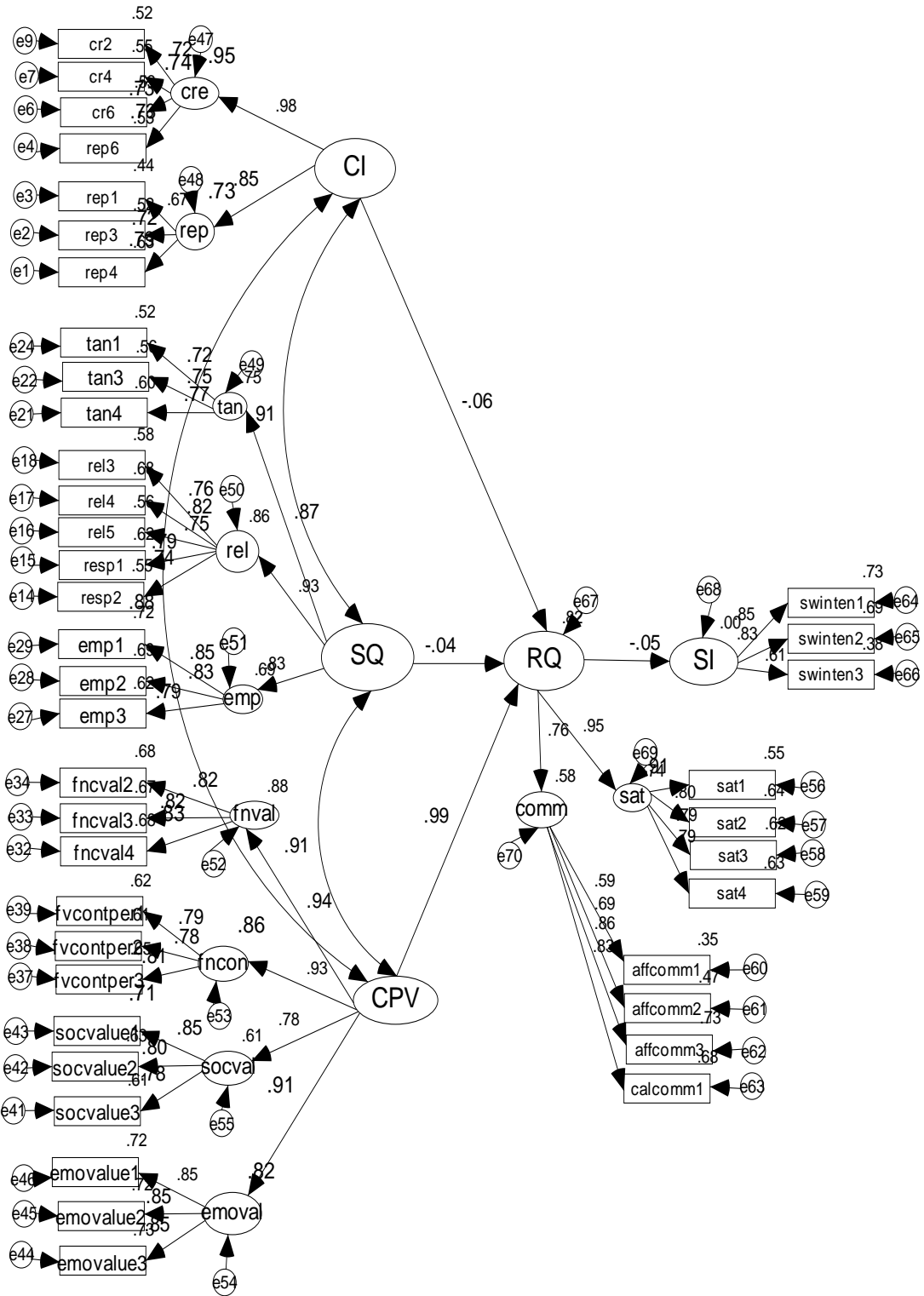


Figure 4.6 The Full Mediation Model

From Figure 4.6, except for the non-significant p-value, which is common when a sample size is larger than 200 (Hair et al, 2006), all of the indices appear to be within the acceptable recommended values. The $\chi^2 = 1263.187$, $df = 763$, $p = 0.000$, $N = 456$). The GFI was 0.881, CFI= 0.957, RMSEA = 0.038, TLI=0.954 and $\chi^2/df = 1.656$. As such, it can be concluded that the fit of the proposed model is reasonably good.

4.10 Mediation Test

To examine the mediating role of relationship quality and switching intention, two nested models were compared: the hypothesized full mediation model, in which the impact of all antecedents of relationship quality are fully mediated by relationship quality and switching intention, and a partial-mediation model that adds direct paths from each antecedent to all outcomes. Figure 4.7 depicts the partial mediation model of the study.

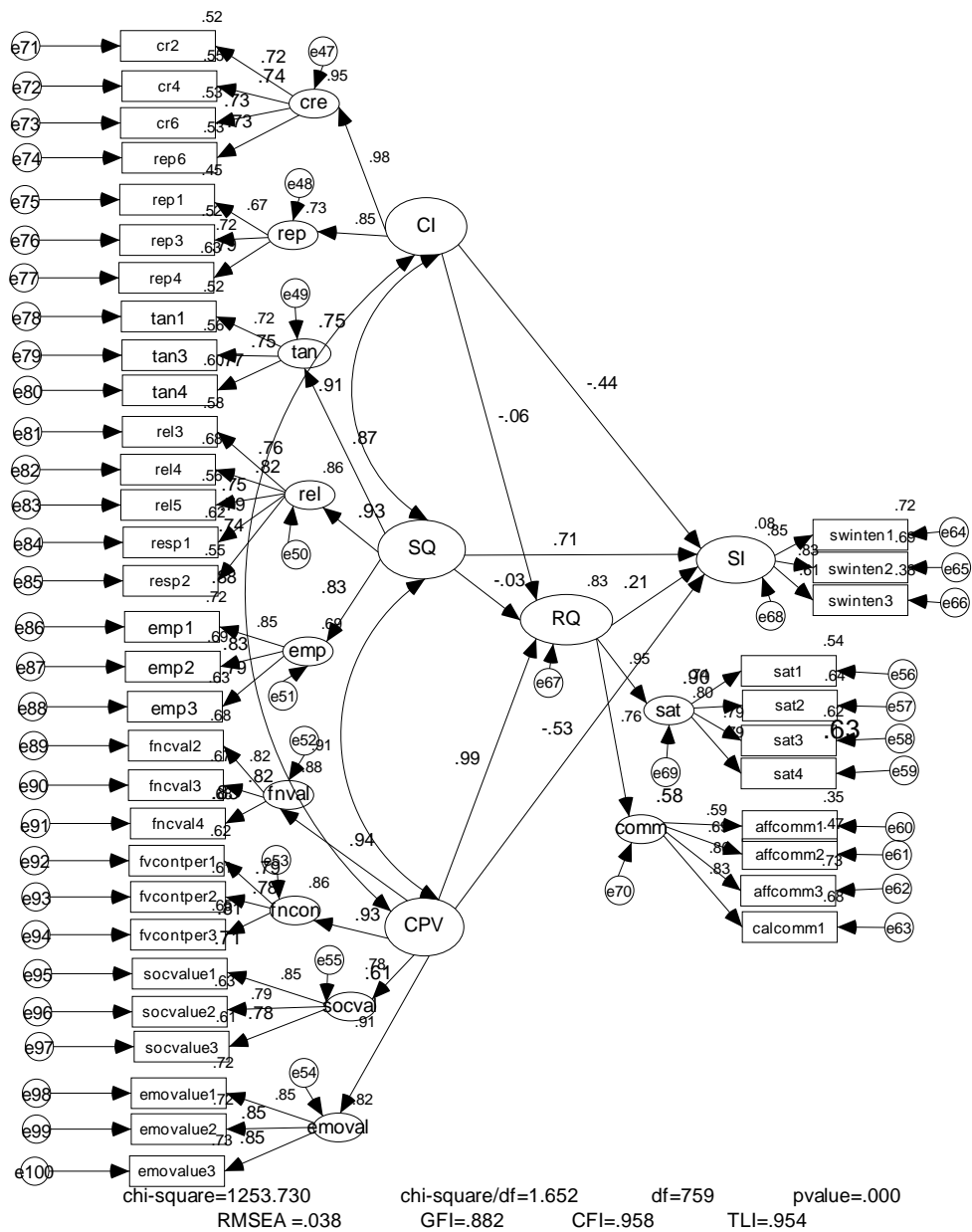


Figure 4.7 The Partial Mediation Model

The newly overall fit generated by the partial mediation model was compared with the overall fit produced earlier by the full mediation model. The results of the partially mediated model show that $\chi^2 = 1253.730$, $df = 759$, $p = 0.000$, $N = 456$. The GFI was 0.882, CFI= 0.958, RMSEA = 0.038, TLI=0.954 and $\chi^2/df = 1.652$.

The results of this mediation test for both full mediation and partial mediation model are reported in Table 4.12.

Table 4.12: The Overall Fit of the Full Mediation and Partial Mediation Model

Model	X²	df	χ²/df	GFI	CFI	RMSEA	TLI
Full Mediation	1263.187	763	1.656	0.881	0.957	0.038	0.954
Partial Mediation	1253.730	759	1.652	0.882	0.958	0.038	0.954
Difference	9.457	4	0.004	0.001	0.001	0.000	0.000

Table 4.12 shows that the fit of the partial mediation model generates very little difference from that of the full mediation model. To determine if the change is significant, the difference in chi-square between both models is examined. For a chi-square difference of 9.457, with 4 degrees of freedom, the associated p-value is 0.0563 which is significant at $p = 0.10$.

This demonstrates that the additional paths created within the full mediation model do not cause a significant change to overall fit of the proposed model and a full mediation model is supported in this study.

4.11 Hypotheses Testing

The results of the structural coefficients exhibited in Figure 4.6 are now used to examine the hypotheses.

H1: Corporate image will positively affect relationship quality

The path that connects corporate image to relationship quality yields a β -value = -0.057, critical ratio = -0.415 which is not significant and in the opposite direction ($p < 0.05$). This means that corporate image has no significant relationship with relationship quality. Hence, H1 is not supported in this study.

H2: Service quality will positively affect relationship quality

The link between service quality and relationship quality as shown in Figure 4.6 generated a β -value = -0.038, critical ratio = -0.233 which is not significant at $p < 0.05$ and the relationship is not in the hypothesized direction. The results therefore do not support H2.

H3: Customer perceived value will positively affect relationship quality

The β -value for the path from customer perceived value to relationship quality is 0.992, critical ratio = 6.996 and this is significant at $p < 0.001$. Thus, H3 is supported indicating a significant relationship between customer perceived value and relationship quality.

H4: Relationship quality is negatively associated to switching intention

The results show a β -value = -0.052, critical ratio = -0.957, and the relationship is in the hypothesized direction. However, the results is not significant at $p < 0.05$. Thus, H4 is not supported.

Hypothesis 5, 6, 7 are predictions that concern relationship quality as the mediating variable. For this purpose, the partial mediation model is recommended to be taken as the focal or baseline parameter. Table 4.13 provides the parameter estimates of the related paths.

Table 4.13: The effects of corporate image, service quality, customer perceived value, relationship quality on switching intentions

Variables	Direct Effect	Indirect Effect	Total Effect
Corporate image	-0.438	-0.013	-0.451
Service quality	0.712	-0.007	0.705
Customer Perceived value	-0.527	0.206	-0.322
Relationship quality	0.207	-	0.207

H5: Relationship quality mediates the relationship between corporate image and switching intention

As shown in Table 4.13, both direct effects of corporate image on relationship quality ($\beta = -0.062$) and relationship quality on switching intention ($\beta = 0.207$) are not significant ($p < 0.05$). According to Baron and Kenny (1986) since the path from an independent variable, corporate image to the mediator variable, relationship quality (mediator variable) is not significant, therefore relationship quality as a mediator is not supported in this relationship.

The indirect effect of service quality on switching intention ($\beta = -0.013$) is also less than 0.008 which according to Hair et al, (2006) with small indirect effects (i.e. less than 0.08) are rarely of interest and seldom add to substantive conclusions. Thus, relationship quality does not mediate the relationship between corporate image and switching intention and H5 is not supported.

H6: Relationship quality mediates the relationship between service quality and switching intention

The paths between service quality and relationship quality (β -value = -0.032) and the path between relationship quality and switching intention (β -value = -0.207) are both not significant ($p < 0.05$). The trivial size of the indirect effect as shown in Table 4.13 further confirms that relationship quality is not a mediator in the relationship between service quality and switching intention. Thus, H6 is not supported.

H7: Relationship quality mediates the relationship between customer perceived value and switching intention

As indicated in Figure 4.6, the paths between customer perceived value and relationship quality (β -value = 0.991) and between relationship quality and switching intention (β -value = 0.207) are both significant ($p < 0.001$). The indirect effect of customer perceived value on switching intention is 0.206 which is larger than 0.008 (Hair et al, 2006). These findings confirm the significant role of relationship quality in mediating the relationship between customer perceived value and switching intention. Thus, H7 is supported.

All in all, results indicate that relationship quality is not a mediator in the corporate image and service quality to switching intention link. In conclusion, this study has confirmed the role of relationship quality as the mediator only in the customer perceived value to switching intention link.

H8: Corporate image is negatively associated with switching intention

From Table 4.13, the direct effect of corporate image (β -value = -0.438), critical ratio = -1.890 is in the hypothesized direction, but is not significant at $p < 0.05$. Thus, H8 is not supported.

H9: Service quality is negatively associated with switching intention

The path that connects service quality to switching intention yields a β -value = 0.712, critical ratio = 2.572 and is significant at $p < 0.01$. However, the relationship is not in the hypothesized direction. Hence, H9 is supported in this study. From Table 4.13, service quality was found to have a direct effect on switching intention, and overall, service quality has the largest total impact on switching intention.

H10: Customer perceived value is negatively associated with switching intention

The β -value for the direct path from customer perceived value to switching intention is -0.527, critical ratio = -1.576 and this is not significant at $p < 0.05$. Thus, H10 is not supported. Results also show the indirect effect of customer perceived value (0.206) on switching intention has a stronger effect than the direct effect (-0.0527), exhibiting relationship quality was also a mediator to influence switching intention.

Finally, to examine the last hypothesis in this study (H11), where alternative attractiveness is used as a moderator in the model, two separate samples are analyzed. The first sample was categorized as high attractiveness Islamic banking customers (Model 1) and the second sample as low attractiveness Islamic banking customers (Model 2).

Two models were examined for the moderator analysis and the overall fit of the two models was tested under two conditions. In Model 1 there were no constraints which then allow the relationship to vary as a function of alternative attractiveness. Meanwhile for Model 2 with constraints does not allow the relationship to vary as a function of alternative attractiveness. A comparison of the two models is further examined.

After testing the two models, Model 1 fits the data better than Model 2 which means there is significant moderation effect. The results of Model 1 overall fit in both samples are displayed in Table 4.14 below.

Table 4.14: The Model's Overall Fit in High and Low Attractiveness Islamic Banking Customers Samples

	χ^2	Df	χ^2/df	GFI	CFI	RMSEA	TLI
High Attractiveness Customers (Model 1)	1140.392	764	1.495	0.745	0.890	0.056	0.881
Low Attractiveness Customers (Model 2)	1269.75	763	1.664	0.834	0.937	0.047	0.932

H11: Alternative attractiveness moderates the model that depicts the effects of relationship quality and switching intention

Using the same SEM model structure, the fit that is produced in the high attractiveness and low attractiveness customers both achieved adequate fit (high attractiveness customers, GFI=0.745, CFI=0.890, RMSEA= 0.056; low attractiveness customers, GFI=0.834, CFI=0.937, RMSEA=0.047).

The results show that the model fits quite well in both samples. The lower chi square values in Model 1 also indicates better fit and thus alternative attractiveness moderates the relationship between relationship quality and switching intention. Hypothesis 11 is therefore supported in this study. The above analysis has facilitated the testing of all eleven hypotheses formulated for the study. The results are summarized in Table 4.15.

Table 4.15: Summary of Hypotheses and Results

Hypothesis	Results
H 1: Corporate image will positively affect relationship quality	Not supported
H 2: Service quality will positively affect relationship quality	Not supported
H 3 :Customer perceived value will positively affect relationship quality	Supported
H4 :Relationship quality is negatively associated to switching intention	Not supported
H5: Relationship quality mediates the relationship between corporate image and switching intention	Not supported
H6: Relationship quality mediates the relationship between service quality and switching intention	Not supported
H7: Relationship quality mediates the relationship between customer perceived value and switching intention	Supported

H8:Corporate image is negatively associated with switching intention	Not supported
H9:Service quality is negatively associated with switching intention	Supported
H10: Customer perceived value is negatively associated with switching intention	Not supported
H11: Alternative attractiveness moderates the model that depicts the effects of relationship quality and switching intention	Supported

4.12 Chapter Summary

This chapter examined the results of the study. The characteristics of Islamic banking customers were obtained and the distribution of data was found to fulfill the requirement of multivariate analyses. Altogether, there were eleven hypotheses proposed in this study.

Structural equation modeling was employed to test the mediated effect of relationship quality in the relationships between corporate image, service quality, customer perceived value and switching intention. This chapter concluded with the full mediated model to examine the overall relationship of the proposed model.