Role of Customer Based Brand Equity On brand Market Performance In The Banking Service Sector In Kenya

Peary Kilei Munyau

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

Signature…………………………
Date………………………………….

Peary Kilei Munyau

This thesis has been submitted with our approval as University Supervisors:

Signature…………………………. Date……………………………

Prof. Mike Iravo (Ph.D)

JKUAT, Kenya

Signature………………………… Date…………………………….

Dr. Jane Omwenga (Ph.D)

JKUAT, Kenya

DEDICATION

I specially dedicate this thesis to my deceased wife Veronica Musenya Musyoka with whose encouragement I re-launched this journey back in 2005 after years of despair. I also dedicate it to my current beloved wife Hannah Dali Kimori who has endured distracted attention, consistently offered psychological support and gave encouragement when the going seemed to get tough as I braved the midnight cold and burned the midnight oil to complete this thesis within the timeframe. I dedicate it also to my beloved children Lissa, Tommy, Rita, Elvis and extensionally to my parents, brothers and sisters.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACTENG	-	Active Engagement
AGFI	-	Adjusted Goodness-of-Fit Index
AMOS	-	Analysis of Moment Structures
ANOVA	-	Analysis Of Variables
AVE	-	Average Variances Extracted
AVE	-	Average Variances Extract
B2B	-	Business to Business
BAS	-	Brand Association
BAW	-	Brand Awareness
BEHLY	-	Behavioral Loyalty
BLY	-	Brand Loyalty
BRECALL	-	Brand Recall
BRECOG	-	Brand Recognition
BTS	-	Bartlett's Test of Sphericity
CBBE	-	Consumer Based Brand Equity
CBK	-	Central Bank of Kenya
CFA	-	Confirmatory Factor Analysis

CFI	-	Comparative Fit Index
CFI	-	Comparative Fit Index
CITC	-	Corrected Item-Total Correlations
CMV	-	Common Method Variance
EFA	-	Exploratory Factor Analysis
FA	-	Factor Analysis
FBBE	-	Firm Based Brand Equity
GFI	-	Goodness-of-Fit index
GLS	-	Generalized Least Squares
MLE	-	Maximum Liklelhood Estimators
MSA	-	Measure of Sampling Adequacy
NFI	-	Normed Fit Index and
NNFI	-	Non Normed Fit Index
PCA	-	Principal Component Analysis
PPMC	-	Pearson Product Moment Correlation Coefficient
PPS	-	Population Proportional to Size
PQ	-	Perceived Quality
RMSEA	-	Root Mean Square Error of Approximation

ROA	-	Return on Assets
ROE	-	Return on Equity
ROS	-	Return on Sales
SEM	-	Structural Equation Modeling
SENCOM	-	Sense of Community
SPSS	-	Statistical Package for Social Scientists
SSA	-	Sub-Saharan Africa
TLI	-	Tucker Lewis Index
ULS	-	Unweighted Least Squares
VIF	-	Variance Inflation Factor

DEFINITION OF OPERATIONAL TERMS

Brand Associations - Brand associations consist of all brand-related thoughts, feelings, perceptions, images, experiences, beliefs, attitudes and is anything linked in memory to a brand (Kotler & Keller 2006). Associations represent the basis for purchase decision and for brand loyalty (Aaker, 1991).

Brand Awareness –Is the customers' ability to recall and recognize the brand as reflected by their ability to identify the brand under different conditions and to link the brand name, logo, symbol, and so forth to certain associations in memory (Keller, 2003).

Brand Loyalty – The attachment that a customer has to a brand (Aaker, 1991)

Perceived Quality - Perceived quality is the customer's judgment about a product's overall excellence or superiority that is different from objective quality (Zeithaml, 2008).

Brand - Abrandisthetotality ofsymbolswhosetaskistoidentify goodsandservices with

aparticularproducer and to differentiatethem from othergoods at thesametime (Kapferer, 2010)

Brand Equity- Is set of assets (and liabilities) linked to a brand's name and symbol that addto (or subtract from) the value provided by a product orservice to a firmand/or that firm's customers(Aaker,1991)

Cusctomer Based Brand Equity- Is defined from the perspective of the customer and is based on consumer knowledge, familiarity, and associations with respect to the brand (Washburn & Plank, 2002).

ABSTRACT

Firms aspire to achieve strong brand equity because brand equity is believed to be an important measure of brand success. Strong brand equity is critical because its perceptions affect both financial and non-financial performance results of an organization. A plethora of theoretical literature suggests that customer-based brand equity (CBBE) attracts new customers to the firm, reminds the customers about the organization's products and services and is a customer's emotional tie to the organization ultimately contributing to the overall performance of the brand in the market. However, there is a paucity of empirical research that explores the link between the dimensionality of customer-based brand equity metrics and brand market performance in any sector, let alone the banking sector in Kenya. The general objective of this study is to examine the role of customer-based brand equity on the market brand performance in the services sector in Kenya. Specifically, the study analyses the effects of, brand awareness, brand association, perceived quality and customer brand loyalty on market brand performance. Target population comprised 25.3 million bank account holders and managers of 44 commercial banks in Kenya. An optimum sample of 400 account holders at 95% confidence level was selected to participate in the study through probability proportionate to size sampling techniques, while branch managers of the 44 banks were automatically included in the study. Two sets of quantitative survey questionnaires, one for the corporate customers and the other for branch managers were used to collect primary data. The corporate customers' questionnaire was validated through piloting on a sample small sample of 40 customers and 4 on branch managers, who were not be part of the actual sample. The Cronbach alpha correlation coefficient was run on the pilot sample to measure the degree of internal consistency of measurement scales as a test of reliability and all variables achieved Cronbach Values of greater than 0.70. Data analyses was done with the aid of Ms Excel, Statistical Package for Social Scientists (SPSS Version 23) and Analysis of Moment Structures (AMOS Version 23). Descriptive statistics has been used to summarize the data, establish characteristics of the study population and describe response concentrations and variations on CBBE measures. The predictor powers and moderation effect of the CBBE variables on brand market performance was tested by conducting a moderated regression analyses. Results show that relationship between overall brand awareness as a component of CBBE and overall market brand performance was positive and significant (r = .413; p = .014; N=382), brand associations were positively and significantly correlated to overall market brand performance (r = .555; p = .001; N=382), the relationship between perceived quality and overall market brand performance was positive and statistically significant (r=.525; p=.001; N=382) and overall brand loyalty had positive and significant relationships with overall brand market performance (r=.578; p=.000; N=382). Generally, the study concludes the customer based brand equity plays a significant role in overall market brand performance as measured on the basis of brand awareness, brand association, perceived quality and customer brand loyalty. Consequently the study recommends that service firms and extensionally manufacturing firms should strive to build brand loyalty based not only on customers but also financial and employee brand equity. In addition, managers should endeavor to realize high level of brand resonance which signifies strong brand loyalty and ultimately contribute to corporate competitiveness and market brand performance

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The concept of brand equiy became widely used at the beginning of the eighties (Nádasi, 2005), mainly in agency measures (Interbrand, Coopers &Lybrand, ArthurYoungAustralia). Since the conference organised by theMarketingScience Institute in 1988,the concept has been more precisely defined. An article by Farquhar,frequently quoted in the brandequity literature that appeared a year later (Farquhar, 1989), greatly contributed to the scientific acceptance of the concept.The most important early results related to the concept and measure of brand equity were summarized by Shocker and Weitz (1988), and the latest comprehensive literature review appeared in 2010 (Christodoulides & Chernatony 2010). The spread of the equity concept in the marketing scientific environment was greatly determined by the publications of Aaker(1991,1994,1996) and Keller (1993,2003) on the topic, increasing the popularity of the brand equity concept in the business practiceas well. In order to distinguish between consumer-based brand equity and brand equity expressed in financial terms, the English literature uses consumer-based brand equity (Keller 1993,Vázquez, *et al.*,2002) instead of brand equity, this latter used without a distinctive epithet in the case of brand equity measures expressed in financial terms (Ailawadi, *et al.*, 2003, Srinivasan, *et al.*, 2005). Brand equity expressed in financial terms is some :times mentioned as brand value, both having the same translation in Hungarian (Srivastava, Shocker 1991, Salinas & Ambler 2009). Brand equity was traditionally measured at the level of consumer goods Netemeyer, *et al.* (2003),Yoo and Doonthu 2001,Vázquez *et al.*2002,Lehmann, *et al.*, 2008, Martensen & Gronholdt 2004), but lately financial services (Chernatony, *et al.*, 2004), online services (Christodoulides, *et al.*, 2006, Chau Ho 2008) and models suitable fo rmeasuring B2B brands (Jensen and Klastrup 2008) have also appeared.

The performance of a brand points out how successful the brand is in the market and aims to evaluate the strategic successes of the brand (Ho & Merrilees, 2008).Brand equity is believed to be an important measure of brand success, hencefirms always aspire to achieve strong brand equity. Strong brand equity signals favourable customer associations towards a brand, which distinguishes a brand from that of the competitors (Keller, 2008). Moreover, strongbrand equity is critical as its perceptions affect both financial and non-financial performance of an organization (Shamma & Hassan, 2011), resulting in positive market performance reflected in market share and leadership.

The American Marketing Association (2013) defines a brand as a customer’s experience represented by a collection of images and ideas. Usually, a brand includes an explicit logo, fonts, colour schemes, symbols, sound, or a collaboration of them, developed to represent implicit values, ideas and even personality. The brand identifies the goods and services of one seller or group of sellers, distinguishing them from those of competitors. In theory, when a marketer creates a logo, name or a new product, it signals the birth of a new brand (Keller, 2003). However, brands are not only names and symbols. Brands designate consumers’ perceptions and feelings about a product and its performance is everything that the product or service means to consumers. The actual value of a strong brand is its power to get consumer choice and faithfulness (Armstrong & Kotler, 2005). A strong brand has high brand equity. A brand with strong brand equity is an important asset as it provides a company with many competitive advantages.

Branding literature suggests that brand equity can be looked at in terms of marketing effects or outcomes that can be uniquely attributed to a brand relative to the effects or outcomes for the same product had it not been identified by that brand (Keller, 2003). The literatureconverges on the fact that brand equity represents added value endowed by the brand to the product or service (Christodoulides & de Chernatony, 2010). This added value, according to Keller (2008), works like a bridge that links what has happened to the brand in the past and what will happen to it in the future, implying that brand equity doesn’t just occur - it is carefully produced and nourished by marketing programs that form strong, favourable, and unique consumer associations and experiences with a brand. However, an apparent lack of common ground on the definition and measurement of brand equity is noticeable from the literature. This is not surprising because depending on the nature of the product/service and the market, firms may have different brand management objectives, hence no single method of conceptualizing and measuring brand equity may be applicable to all brands.

Keller and Lehmann, 2003; Tran Quan Ha Minh, (2006) divide brand equity measures into three categories: customermindset, product market outcome, and financial outcome measures. However, the dominant brand equity literature views brand equityconstruct from two major perspectives. The distinction between these perspectives depends on the actors, measures and the final aim of using brand equity Atilgan, *et al.* (2009; Kubania and Kagiri,2015). In the first perspective, Christodoulides & de Chernatony (2010) argue that some authors have focused on the financial perspective of brand equity,generally regarded as firm based brand equity (FBBE). Firm based brand equityconsiders the financial value that brand equity creates to the business Atilgan, *et al.* (2009) and measures the total value of a brand as a separate asset (Christodoulides & de Chernatony, 2010). However, the financial value of brand equity is a manifestation and outcome of consumer response to a brand name.

In the second perspective, authors have looked at brand equity from the customer's perspective (consumer based brand equity (CBBE), considered as the driving force of increased market share and profitability of the brand and based on the market's perceptions, that is, consumers' associations and beliefs (Christodoulides, *et al.*, 2006; Christodoulides & de Chernatony 2010; Pappu *et al.*, 2005). Customer based brand equity is in the minds of consumers and results from what they have learned, felt, seen, and heard about a brand over time.

Customer based brand equity refers to the tremendous value inherent in a well-known brand name. It actually represents a product's positioning in the minds of consumers in the marketplace (Yasin, *et al.*, 2007). Keller (2003) defined customer-based brand equity as the differential effect that brand knowledge has on consumer response to the marketing of that brand. According to Gronroos (2007), CBBE describes the value that brands create to customers. Customer based brand equitygives important insights for companies of why and how the brand is creating more value to consumers than the competitor's brand and why their brand is chosen over the competitor's brand. Thus, conceptualizing brand equity from the consumer's perspective is useful because it suggests both specific guidelines for marketing strategies and tactics and areas where research can be useful in assisting managerial decision making.

Aaker (1991) identified the conceptual dimensions of brand equity as brand awareness, brand associations, perceived quality, brand loyalty, and other proprietary brand assets such as patents, trademarks and channel relationships. According to this conceptualization, whereas the first four dimensions of brand equity represent consumer perceptions and reactions to the brand, proprietary brand assets are not pertinent to consumerbased brand equity. Keller (2003) described customer-based brand equity as a multidimensional concept. According to Keller (2008), brand knowledge is a key antecedent of CBBE and is in turn conceptualized as a brand node in memory to which a variety of associations have been linked. Brand knowledge is then decomposed into two separate constructs, brand awareness and brand image (associations).Most empirical studies have measured CBBE by four constructs: brand awareness, brand association, perceived quality and brand loyalty (Kim, *et al*., 2003; Yoo & Donthu, 2001; Pappu, *et al.*, 2005; Washburn & Plank, 2002). This study is premised on the recognition that consumer-based brand equity is an asset of these four dimensions.

Empirical literature shows that a number ofstudies have examined the link between consumer-based brand equity and the brand's market performance. For instance, Kim, *et al.* (2003) examine the correlation between customer-based brand equity measures of a brand's perceived quality, effect of a consumer's incremental choice probability of purchase on a brand's contribution margin to the firm. Initial researchesby Aaker and

Jacobson (1994) was done toshow the association between perceived quality and a firm's stock price; Aaker & Jacobson (2001) showed that brand attitude can predict a firm's stock value and future earnings in high-technology markets. Gomez, *et al.* (2003) find evidence in the context of the retail industry that changes in customer satisfaction(a key component of consumer-based brand equity) can significantly affect sales performance, in particular satisfaction with a store's service levels.

Marketing theory has treated customer-based and firm/financially based brand metrics as measures for brand performance and exogenous variables to brand management (Aaker, 1996). The same theoretical literature has acknowledged that financially based brand equity is an outcome of customer-based brand associations and perceptions as can be deciphered from the foregoing paragraphs, making financially based brand metrics exogenous to customer-based brand metrics. Whereas brand equity research from a consumer's perspective often involves collecting data from a consumer their mindset measures of brand equity and using the data to assess the consumer's perceptions, feelings, attitudes towards the brand, preference behaviour and their resulting choice behaviour, brand equity research from a firm's perspective usually involves the use of observed market data to assess the brand's financial value to the firm.

Despitethe fact that studying brand equity using either a consumer-based or financially-based approach has yielded valuable insights on the different ways that brand equity can be measured and managed, there is a dearth of empirical research that treat financially-based metrics as exogenous to CBBE and its endogenous metrics, yet there is a general consensus that a brand's performance in the marketplace is determined in part by consumer perceptions, behavioural intentions, and attitudes toward the brand.In addition, a plethora of research in the branding literature has been done at the product level, where scholars were primarily concerned about customers' perceptions about a product brand and, more so, in the context of developed economies. Therefore, there is a need to better understand the link between brand metrics obtained from the two perspectives within the services sector in the context of a developing economy, particularly Kenya.

The banking industry plays an essential role in the economy in terms of resource mobilization and allocation and, is by far, the most important part of the financial system in developing economies, accounting for the bulk of the financial transactions and assets (Moyo, *et al*., 2014;Tuominen (1999). In the past two decades, banking markets have been subjected to structural changes caused by modifications in the external environment especially as a consequence of the increasing monetary and financial integration (Njuguna, 2014*)*. The gradual liberalization of capital flows, rapid pace of developments in information technology, product/service innovation in financial markets, the internationalization of banking activities, phenomenon of disintermediation and the concern for the competitive pressure from foreign rivals are undoubtedly some of the prominent structural features of the banking sector. These forces have altered banking behavior and market structure with vast implications for competition and concentration: the enhanced competition has forced banks to look for a bigger size as well as better managerial capacity in order to improve their overall efficiency.

Results for bank concentration, which the World Bank calculates by taking the fraction of assets held by the three largest banks in each country and which to a large extent indicates the level competitiveness of a country's banking sector, show that in 2014 among the G7 economies, the US banking sector remained the most competitive at a market concentration of 35.41% while Germany was the least competitive at 78.07%. Japan, the UK, Canada, France and Italy come in the second to sixth positions with bank concentrations of 43.9%, 57.43%, 62.68% and 63.11% respectively. A simple interpretation of this pattern of concentration would be that some countries have a more competitive banking market structure than others, and that the trend may have caused general decline in competition. Market concentration evolves in relation to changes in competitive conditions, and tougher competition may be driving out weaker banks (those that are less attractive to customers) with the result that concentrated markets would be associated with tough competition.

African banking sectors have witnessed significant reforms over the last three decades following a long period of underperformance. These reforms have led to significant growth in the number of banks in many African countries, a noticeable increase in the degree of cross-border and a significant growth in the number of small banks with relatively less capital base, which has attracted recapitalization programmes (such as Ghana, Sierra Leone and Nigeria) in order to address any possible threat to financial stability (Allen *et al.,* 2011). Over the same period, the sub-regional average of the ratio of equity to total assets was as high as approximately 15% in Southern and West Africa and 16% in North and East Africa notes that banks in African sub-regional markets can be characterized as monopolistically competitive. With the exception of North Africa, African banks exhibit higher competition at interest-generating activities compared to total banking activities. The degree of competition in African banking markets is comparable to that existing in other emerging markets, but generally well below the standards of developed countries, with five-bank concentration ratio stands of 77.29% for the whole African region. As argued by Boone, *et al.* (2005), fierce competition may drive out of the market the less efficient banks, with a resultant increase in banking market concentration.

Many Sub-Saharan Africa (SSA) countries have liberalized their financial systems over the past three decades, restructuring a majority of the state-owned commercial banks, thereby creating conducive environment for increased foreign bank entry and allowing acquisition of foreign assets by domestic financial firms. Available evidence suggests that in developing countries with transparent financial regimes where financial sector reforms have been implemented, competition in the banking industry has generally improved compared to countries characterized by less transparent financial sector regimes (Beck, *et al.,* 2009; Njuguna, 2014). In the East African countries, studies have shown that financial sector reforms stimulated competitive pressures in the banking industry (Mugume, 2007). The results are robust to entry of foreign banks and bank privatization (Cihak & Podpiera, 2005). However, this evidence is not uniform. Other studies have reported limited effects of reforms on competition (Saab & Vacher, 2007;), with liberalization in some cases leading to financial crises. In Kenya, Bank Supervision Report shows that as at 31st December 2014, the banking sector comprised of the Central Bank of Kenya as the regulatory authority, 44 banking institutions, 8 representative offices of foreign banks, 9 Microfinance Banks (MFBs), 2 Credit Reference Bureaus (CRBs), 13 Money Remittance Providers (MRPs) and 87 Foreign Exchange (Forex) Bureaus (Central Bank of Kenya (CBK), 2014). Out of the 44 banking institutions, 30 were locally owned banks comprised 3 with public shareholding and 27 privately owned while 14 were foreign owned as shown in Chart 1. The 9 MFBs, 2 CRBs, 13 MRPs and 87 Forex bureaus are all privately owned.

Kenyan commercial banks are classified into three groups using a weighted composite index that comprises net assets, customer deposits, capital and reserves, number of deposit accounts and number of loan accounts. A bank with a weighted composite index of 5 per cent and above is classified as a large bank. A medium bank has a weighted composite index of between 1 per cent and 5 per cent while a small bank has a weighted composite index of less than 1 per cent. For the period ended 31st December 2014, there were 6 large banks with a market share of 49.9 per cent, 16 medium banks with a market share of 41.7 per cent and 21 small banks with a market share of 8.4 per cent. There were shifts in market share positions for the banks in the three peer groups; The combined market share of banks in large peer group declined from 52.4 per cent in December 2013 to 49.9 per cent in December 2014. Banks in medium peer group increased their combined market share from 37.95 per cent in December 2013 to 41.7 per cent in December 2014. The market share of banks in small peer group declined from 9.66 per cent in December 2013 to 8.4 per cent in December 2014 (CBK, 2014).

In 2014 two banks shifted in their classifications from their 2013 classifications. Commercial Bank of Africa moved to the large peer group from the medium peer group while CFC Stanbic Bank moved to the medium peer group from the large peer group. Similarly, some banks changed positions within their respective peer groups; In the large peer group, Equity Bank moved to position 3 in 2014 from position 2 in 2013; Cooperative Bank of Kenya moved to position 2 from position 3 in December 2013; Barclays Bank moved to position 4 from position 5 in December 2013; while Standard Chartered Bank, which was ranked position 4 in December 2013 moved to position 5 in December 2014.

1.2 Statement Of The Problem

Branding of financial services in Kenya is relatively weak, with many brands lacking saliency and true customer based brand equity. For commercial banks, the challenge is even bigger, more so with regard to maintaining the consistency of a bank's brand and customer experience, remaining relevant to customers' specific needs, and overcoming the image, in the eyes of retail banking customers, of the bank being too big to pay attention to an individual customer. Yet, marketers have to grapple with the pressure of justifying their marketing strategies and actions (O'Sullivan & Abela 2007) in a banking industry that continues to experience strong competitive pressures resulting from the integration and globalization of financial markets, and extensive use of e-commerce to deliver services and create new products, thus differentiating industry players along market performance. More worrying is the fact that even for commercial banks that have openly exhibited aggressiveness in brand building activities, they still suffer from a lack of guidance due to a limited number of published studies concerning the transformation of branding strategies into CBBE and its effectiveness in creating market brand value. It is possible that brand building strategies among commercial banks may not be successful in creating value for the brands in the market.

Extant studies conductedwere mainly conducted on product brands in developed economies. In addition, a synthesis of these studies among others suggests that studying brand equity solely and separately from the perspective of either the firm or the consumer as endogenous to brand management may be inadequate given that theoretical literature recognizes the exogenous nature of financial-based brand equity to customer-based brand equity. Against this background, the main question that this study sets out to answer is, what is the role of customer-based brand equity on the brand market performance in the services sector in Kenya?

Much of previous research has largely concentrated on tangible brands and little research has been directed towards building service brands equity. The emerging fast growth of service firms in Kenya and within the global market accelerates the demand for research in the service sector. Particularly, the banking industry in Kenya has encountered erratic performance partly attributable to weak and in some instances diminished customer based brand equity. Many banks and other firms in service industry in Kenya command relatively small mental share among customers due weak customer based equity. Further, other factors held constant, banks that customers largely resonated with have been depositioned while others have been either liquidated or acquired by other banks or merged with other banks with high brand equity.At the time of undertaking this study, several banks remain relatively poorly known to Kenyans such as; Credit bank, Oriental Commercial Bank, Paramount Bank, Habib Bank, Guardian Bank, Equatorial Commercial Bank, Fidelity Commercial Bank, Giro Commercial Bank, Prime Bank among others. Again two banks-Imperial Bank and Chase bank- have been closed down although the closures may not be directly attributed to diminished CBBE, the banks were not largely known within the Kenyan market. Again Kenyan airline- Kenya Airways- that largely highly resonate with domestic and international customers is encountering market survival challenges due huge financial losses. This research provides viable solutions on the pervasive challenge on not only building but also sustainance of customer based brand equity within the service sector and particularly banking sector in Kenya.

1.3 Objectives of the Study

1.3.1 General objective

The general objective of this study was to examine the role of customer-based brand equity on the brand market performance in the banking services sector in Kenya.

1.3.2 Specific objectives

The study sought to achieve the following specific objectives:

1. To examine the role of brand awareness on brand market performancein the banking service sector in Kenya.

2. To ascertain the role of brand association onbrand market performance in banking service sector in Kenya.

3. To determine the role of perceived quality on brand market performance in the banking service sector in Kenya.

4. To establish the role of customer brand loyalty on brand market performance in the banking service sector in Kenya.

1.4 Hypotheses of the Study

The development of the following hypotheses tested in this thesiswas informed by both theoretical postulations and empirical findings of previously published studies on CBBE and brand market performance.

Hypothesis 1:

H_{01}: Brand awareness does not have a statistically significant effect on brand market performance

H_{A1}: Brand awareness has a statistically significant effect on brand market performance

Hypothesis 2:

H_{02}: Brand associationsdo not have a statistically significant effect on brand market performance

H_{A2}: Brand associations havea statistically significant effect on brand market performance

Hypothesis 3:

H_{03}: Perceived quality does not have a statistically significant effect on brand market performance

H_{A3}: Perceived quality has a statistically significant effect on brand market performance

Hypothesis 4:

H_{04}: Brand loyalty does not have a statistically significant effect on brand market performance

H_{A4}: Brand loyalty has a statistically significant effect on brand market performance

1.5 Significance of the study

The current business environment has become more competitive, customers and non-customers become more demanding. For service firms to gain competitive advantage and achieve favorable market performance of their brands, they will need to develop service and corporate brands to meet stakeholders' expectations. This research will be significant to the following:

1.5.1 Marketing Practioners

Understanding the structural relationships between consumer-based brand equity metrics and market performance of the brand will enable service marketing managers to better understand how brand equity metrics based on the consumer mindset affects actual market brand performance. Further, marketing practitioners will gain a grounded understanding of how measures of consumer brand perceptions or attitudes translate into more tangible, market outcome measures such as market share or revenue, and the usefulness of such consumer-mindset measures in predicting service demand and the corresponding market performance of their services. From a broader perspective, marketing managers may be interested in understanding how strategic marketing actions on their part affect these measures of consumer-based brand equity and what they can do, through their marketing activities, to improve these measures and their brands' corresponding market performance.

1.5.2 To Firms

The study will also extensively serve as a significant tool of assisting investors not just in Kenya but also in any other market, in developing strategies of strong of building sustainable strong customer based brands equity whether for existing brands or newly introduced brands. This will also enable firms to fortify their brands against invasion by competitors' substitutes in the face of fast growing perfectly competitive market.

1.5.3 To Researchers

The study will also present an insight to researchers on the need to direct research attention towards service customer based brand equity (SCBBE) as a fast growing sector within and beyond Kenya. Prominence is desirable in the service sector in Kenya particularly as the country is geared towards achieving vision 2030.

1.6 Scope Of The Study

The study focused on the role of customer-based brand equity on brand market performance within the retailbanking services sector in Kenya. Although theoretical literature indicated that CBBE is a multi-dimensional construct, the study wasconfined to the use of the most dominant constructs used in previous studies namely brand awareness, brand associations, perceived quality and customer brand loyalty and their relationships with brand market performance metrics.

In terms of sector coverage, the study was restricted to the banking financial services sub-sector which comprises 44 commercial banks in Kenya. A sample of 400 customers of these commercial banks was scientifically approximated to constitute a representative sample to provide data upon which findings could be generalized to the target population.

Geographically, the study was restricted to the commercial bank branches in within Mombasa town, the second largest City of Kenya after the Capital Nairobi.

1.7 Limitations of the Study

This study was not devoid of impediments. The researcher encountered a number of challenges which included and were not limited to the following: 1) Managers from five branches which were initially considered to be part of the sample declined to respond citing confidentiality of the information sought. They generally expressed underlying concerns that such information could leak to their main competitors. 2) Some customer also declined to respond citing time inadequacy, disinterest and busy schedule despites the researchers prior proactive consideration of these hence the reason to approach the customers while on the queue awaiting for service delivery. 3) Some respondents were illiterate and other semi-illiterate hence could not understand some questions despite of the research assistants' translation and interpretation. 4) Some questionnaires were incompletely filled by respondents who took the initiative to fill them on own. This compelled the researcher to exclude such questionnaires from analysis.

1.9 Delimitations Of The Study

To conter the aforementioned challenges the researcher firstly gave an assurance to the managers that the information provided will be treated as highly confidential and this was conspicuously stated in the managers' questionnaire. Secondly, the purpose of the research was explained to the customers/ propective respondents on the queue and assuarance of expenditure of minimum time assured. As a last resort, customers who vehemently declined to accept the request were skipped and the same request was made to the next custome on the queue until the target number of respondents was realised. Thirdly, to obviate the challenge of illiteracy and semi-iliteracy of respodents, the research assistants translated and interpreted the questions into Kiswahili which is widely spoken in Mombasa, Kenya. Lastly, incomplete questionnaires were treated as constuting missing data and those with extensively missing data were excluded from analysis as explained under the sub-heading of treatment of missing values in sub-sections 4.2 and 4.3.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the theoretical frameworks in the area of brand equity, upon which the study was underpinned are reviewed and discussed in the second section following this introductory section.In the third section, the conceptual framework developed from both theoretical and extant empirical literature and showing the graphical relationships between the independent and dependent variables of the study is presented and discussed. The empirical literature reviewed from published studies by scholars in the field of brand equity and brand performance in line with the identified independent variables of the study presented in section four of this chapter. In sections five, six and seven respectively, critique of existing literature, identified research gaps and a summary of the literature reviewed are presented.

2.2 Theoretical Framework

The dominant literature on CBBE is based on the theoretical foundations set forth by Aarker (2011) & Keller (2013). Erdem & Swait (2004) classified brand equity models into component-based models (Aaker, 2013; Keller, 2013; Lassar, *et al.*, 1995; Keller & Lehmann, 2003) and; holistic models (Swait, *et al.*, 1993; Park and Srinivasan, 1994; Kamakura & Russell, 1993).Component-based models of brand equity measure individual elements of brand equity while holistic models attempt to provide an overall evaluation of the brand. This study utilizes a component-based approach that identifiesbrand equity as a multidimensional concept (Aaker, 1991, 1996; Keller, 2013) because the main purpose was to test the effect of each customer-based brand equity construct on brand market performance. Consequently, the study was strongly underpinned by conceptualizations of brand equity postulated by (Aaker, 1996) & Keller (2013).

2.2.1 Keller's Brand Equity Pyramid

Keller (2013) defined consumer-based brand equity at individual level taking brand knowledge as a starting point, which is conceptualized as an associative network, where the associations are nodes. Keller (2013) used the term consumer-based brand equity to refer to brand equity and noted that customer-based brand equity occurs when the consumer is familiar with the brand and holds some favourable, strong and unique brand associations in their memory. In 2003, Keller defined brand equity as differences in customer response to marketing activity. The concept behind the brand equity is to form how customers think and feel about the product or service relying on positive experience. A company should create a situation that their customer will have positive thoughts and feelings and perceptions concerning the brand.

Keller model in Figure 2.1, identifies 6 elements including brand salience, brand performances, brand imagery, brand feelings, brand judgments and brand relationships. The first stage relates to brand identity and uses brand salience as a measure of the awareness of the brand (Keller, 2008). Formally, brand awareness refers to customer's ability to recall and recognize the brand; brand awareness also involves linking the brand name, logo and symbol to certain association in memory. Building brand awareness involves making sure that customer understand the product or service category in which the brand competes (Keller, 2003).

Based on Keller's model, Kerri-Ann, *et al*. (2008) explained that the first step in building a strong brand is to ensure the correct brand identity; the purpose is to create an identification of the brand with customers and an association in their minds with a specific product class or need. To do this, brand salience must exist, which represents aspects of brand awareness and the range of purchase and consumption situations in which the brand comes to mind. The salience building block is, therefore, made up of two sub-dimensions - need satisfaction and category identification.

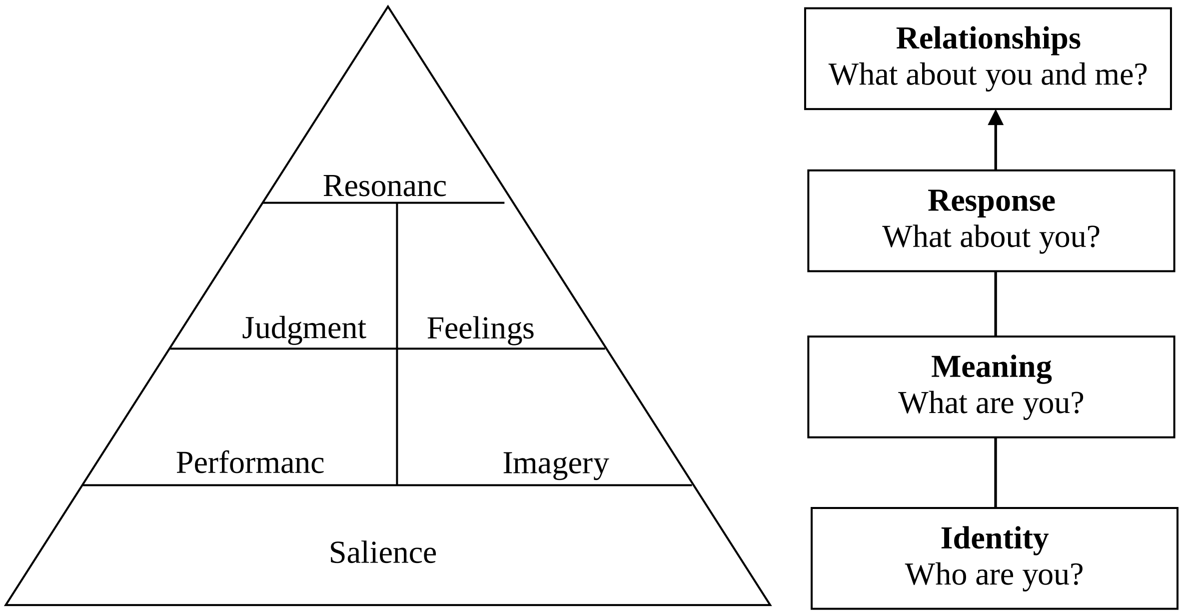

Figure 2.1: Keller's Customer-Based Brand Equity Pyramid (Keller, 2003)

Kerri-Ann, *et al.* (2008) discussed the second step of Keller's model as establishing brand meaning by linking tangible and intangible brand associations. Brand meaning is, therefore, characterised in either functional (brand performance) or abstract (image-related) associations. Brand response is the third step in the Keller's model and represents opinions and evaluations of the brand based on a combination of associations identified in brand meaning. These judgments include overall quality, credibility, consideration and superiority. Brand feelings are customers' emotional responses and reactions to the brand. Keller (2003) identifies six types: warmth, fun, excitement, security, social approval and self-respect. Brand relationships constitute the final step in the pyramid where brand response is converted to create an intense, active loyalty relationship between customers and the brand. The pinnacle of the pyramid is resonance, which refers to the nature of the relationship between the customer and the brand. It is described as having four elements: behavioural loyalty, attitudinal attachment, sense of community and active engagement (Keller, 2001). There is an obvious sequence in this "branding ladder" and this meaning cannot be established unless identity has been created. Responses cannot occur unless the right meaning has been developed and the relationship cannot be forged unless the proper responses have been elicited (Keller, 2001).

2.2.2 Aarker's Brand Equity Model

Aaker (1991) provided the most comprehensive brand equity model which consists of five different assets that are the source of the value creation. These assets include: brand loyalty; brand name awareness; perceived brand quality; brand associations in addition to perceived quality; and other proprietary brand assets such as, patents, trademarks, and channel relationships.

Based on Aaker's model, Ovidiu (2010);Tran Quan Ha Minh, (2006) brand loyalty generates value by reducing marketing costs and leveraging trade. Loyal customers expect the brand to be always available and entice others advising them to use it. Retaining existing customers is much less costly than attracting new ones. Even if there are low switching costs, there is a significant inertia among customers. It is also difficult for competitors to communicate to satisfied brand users because they have little motivation to learn about alternatives. Therefore, competitors may be discouraged from spending resources to attract satisfied and loyal customers and even if they do so, this requires a long time. Aaker (1991) believed that focusing on brand loyalty is often an effective way to manage equity.

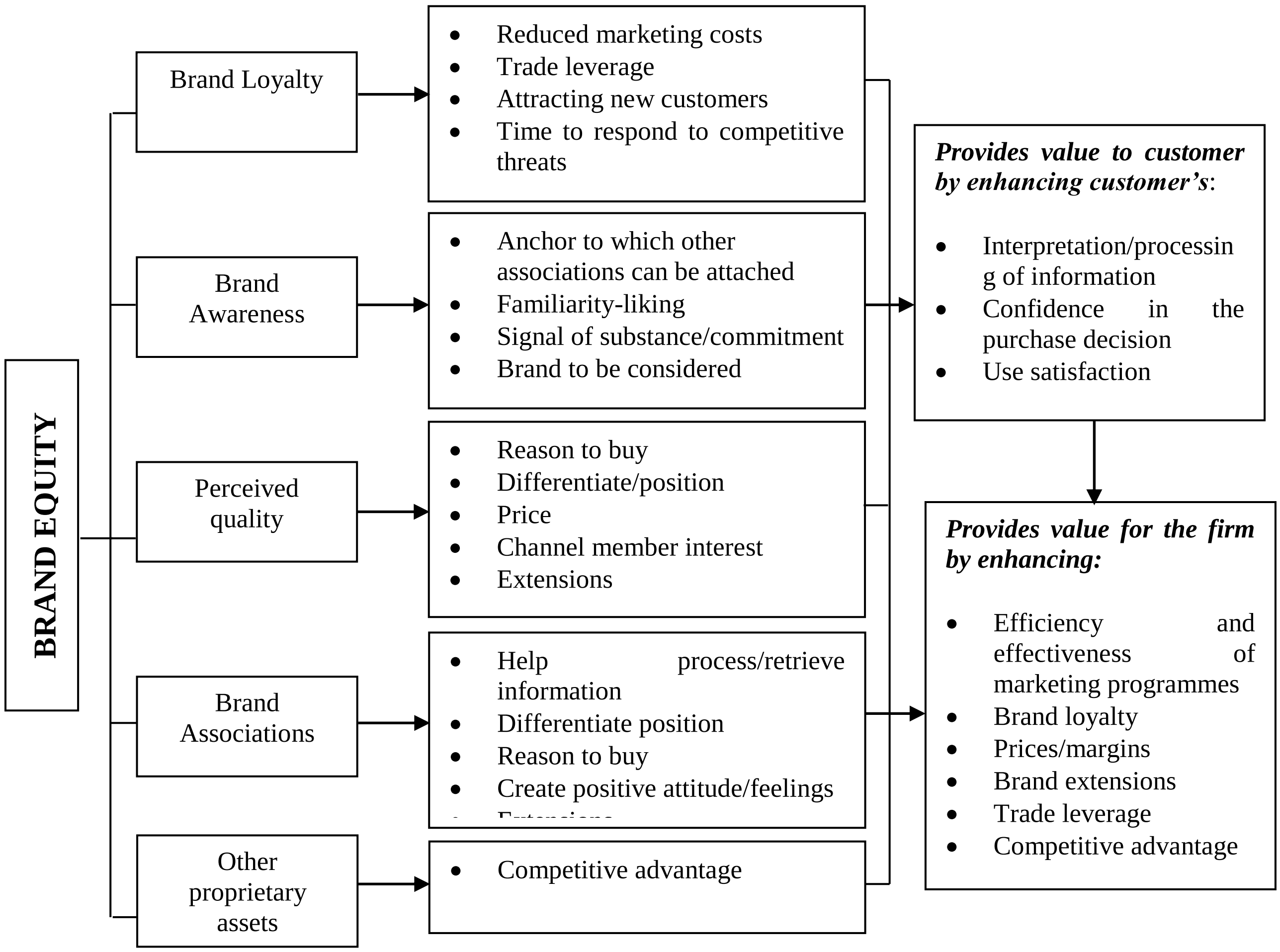

Figure 2.2: Aaker's Brand Equity Model (Aaker, 1991)

Brand awareness is a key and essential element of brand equity which is often overlooked (Aaker, 1996). Brand awareness refers to "the ability of a potential buyer to recognize or recall that a brand is a member of a certain product category" (Aaker, 1991). Brand awareness has different level; at the recognition level, it can provide the brand with a sense of the familiarity as well as a signal of substance, commitment and awareness and at the recall level, it further affects choice by influencing what brands get considered and selected. For many companies, brand awareness is pivotal and it underlies the strength of successful brands (Aaker, 1992). Awareness plays an important role in most of conceptual models of brand equity. Brand awareness generates a high level of purchase, mainly because consumers are likely to buy those brands they are familiar with enhancing the firm's profitability and sales (Baldauf, *et al*., 2003).

Aaker (1991) explained that perceived quality provides value by providing a reason to buy, differentiating the brand, attracting channel member interest, being the basis for line extensions, and supporting a higher price. In other words, perceived quality is the consumer's judgment about a product's overall excellence or superiority (Zeithaml, 2008). Perceived quality is included as an asset distinct from brand. It has become an important business thrust for many firms and can be the motivation for programs designed to enhance brand equity. Perceived quality is a sufficiently important and accepted strategic consideration (Aaker, 1991).

Brand associations or brand image is perhaps the most accepted aspect of brand equity. In fact, it is anything linked in customers' memory to a brand. Brand association include product attributes, customer benefits, uses, users, life-styles, product classes, competitors and countries. Associations can help customers process or retrieve information, be the basis for differentiation and extensions, provide a reason to buy, and create positive feelings. Consumers use brand associations to process, organize, and retrieve information in memory and this helps them to make purchase decisions (Aaker, 1992). In order to build strong brand equity in the market, it is fundamental to understand the core dimensions of brand image, which is brand personality (Lee, *at el*, 2006). When there is a higher level of brand association, there is a higher tendency for brand extension to become relevant to customers.

Based on Aaker's model, Ovidiu (2010) discussed that brand assets refers to patents, trademarks and channel relationships which can provide strong competitive advantage. Trademark protects brand equity from competitors who might want to confuse customers by using a similar name, symbol or package. Patent can prevent direct competition if strong and relevant to the purchase decision process. Finally, a distribution channel can be indirectly controlled by a brand as customers expect the brand to be available

Considering Aaker's (1991) model, strong interrelationshipsoccur among the dimensions of brand equity. The last four brand equity dimensions can enhance brand loyalty, providing reason to buy and affecting use satisfaction. Even when they are not pivotal to brand choice, they can reassure, reducing the incentive to try others. Therefore, brand loyalty is both one of the dimensions of brand equity and is affected by brand equity and the other assets that generate equity. In the same way, perceived quality could be influenced by awareness (a visible name is likely to be well made), by associations (a visible spokesperson would only endorse a quality product) and by loyalty (a loyal customer would not like a poor product). In some circumstances it might be useful to explicitly include brand equity dimensions as outputs of brand equity as well as inputs.

Aaker's (1991) brand equity model lists three ways of how brand assetscreate value for the customer. Firstly, brand equity can help a customerinterpret, process, store, and retrieve a huge quantity of informationabout products and brands. Secondly, it can affect the customer'sconfidence in the purchase decision; a customer will usually be morecomfortable with the brand that was last used, is considered to have highquality, or is familiar. Finally, perceived quality and brand associationsprovide value to the customer by enhancing the customer's satisfaction.

The model also assumes six ways that brand assets create value for the firm. Firstly, brand equity can enhance the efficiency and effectiveness of marketing programs. A promotion, for example, will be more effective if the brand is familiar and if the promotion does not have to influence a sceptical consumer of brand quality. Secondly, brand awareness, perceived quality and brand associations can all strengthen brand loyalty by increasing customer satisfaction and providing reasons to buy the product. Thirdly, brand equity will usually provide higher margins for products, permitting premium pricing and reducing reliance on promotions. Brand equity can also provide a platform for growth by brand extensions and can provide leverage in the distribution channel as well. Channel members have less uncertainty dealing with a proven brand name that has already achieved recognition and has established strong associations. Finally, a strong brand represents a barrier that prevents customers from switching to a competitor.

2.2.3 Investigation Theory

This model provides the steps in which that companies need to embrace inorder to build a long-term brand relationship between with customers its customers.What is intended with this investigation model in general terms is to analyse the separate steps in order to create a strong brand, where brand owners have a key role in determining the brand strategy and its elements, which managed in a sustainable way will contribute to achieving higher brand equity, reinforced by the brand communication at the other hand Baeva (2011). Both, brand strategy and brand communication are important tools in creating brand equity. In this process brand equity and its components are the core in creating a brand that will build a long-term relationship-an unshakeable bond-between the company and its customers. Such a strong brand creates value to the customer, increases corporate profits over the long term, and this way enhances the overall corporate value (Baeva 2011).

2.3 Conceptual Framework

The foundation of the conceptual framework for this study shown in Figure 2.3was based on Aaker's (1991) model of brand equity. The four dimensions of CBBE considered in the framework represent customers' evaluations and reactions to the brand that can be readily understood by consumers; these elements have been widely adopted to measure customer based brand equity in previous studies (Tang & Hawley, 2009).

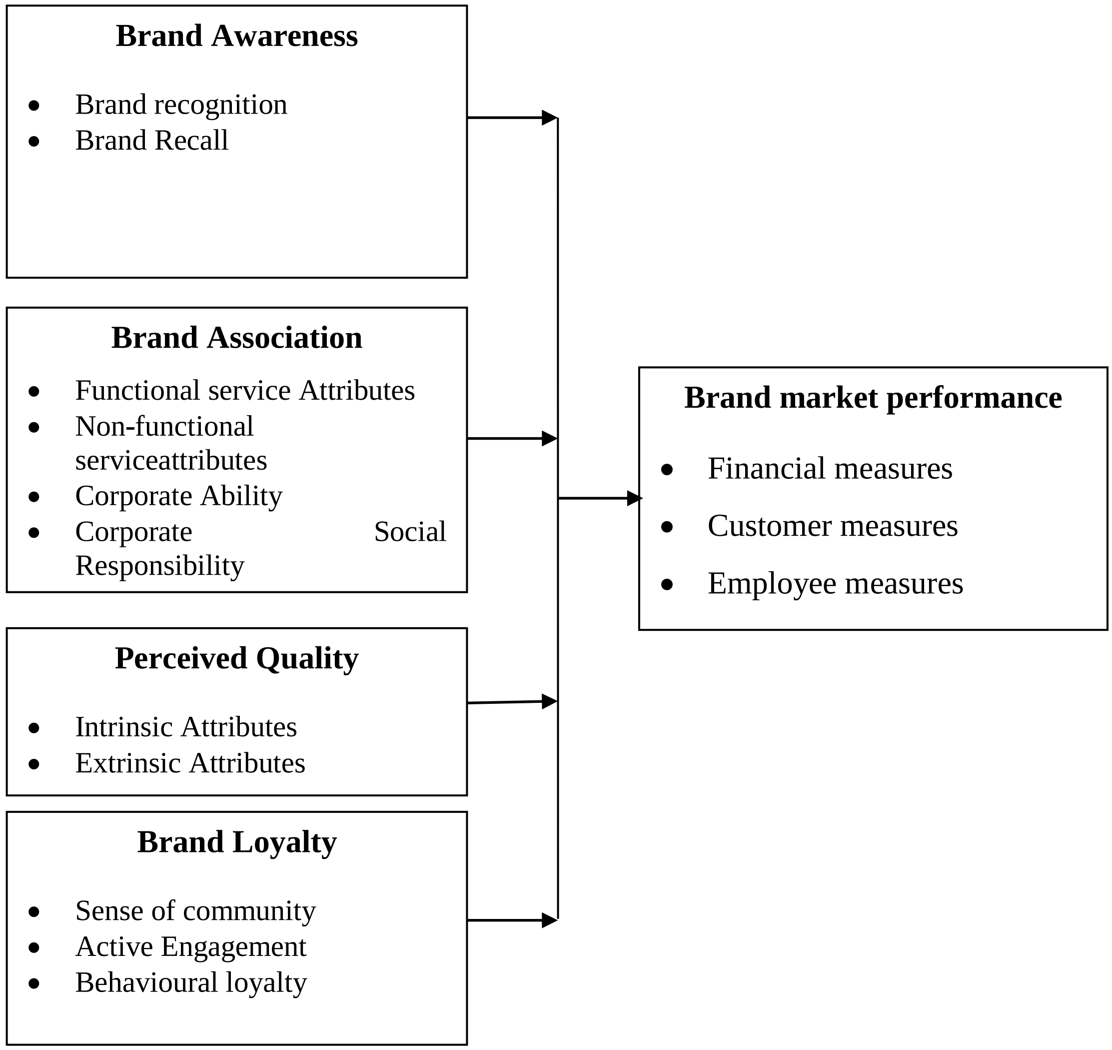

Figure 2.3: Conceptual Framework

2.3.1 Brand Awareness And Brand Market Performance

Brand awareness is the first and fundamental attribute of customer brand equity; and sometimes it is underestimated component of brand equity (Tang & Hawley, 2009).It is an important indicator of consumers' knowledge about a brand, the strength of a brand's presence in the consumers' minds and how easily that knowledge can be retrieved from memory (O'Guinn, *et al*., 2009). Brand awareness is the probability that consumers will easily recognise the existence and availability of a company's product or service

(Mowen & Minor 2001).Implicitly, brand awareness precedes building brand equity in the consumer mind set (Huang &Sarigollu, 2011).

There are two main types of brand awareness, namely ‘aided awareness’ and ‘top of the mind awareness’ (Farris, *et al.,* 2010). Aided awareness occurs when a consumer is provided with a list of brand names and they recognise the brand from the given set whereas ‘top of the mind awareness’ occurs when the name of the brand is automatically recollected because the consumer very promptly associates the brand with the product category (Keller, 2008). Moreover, brand awareness also comprises brand recognition, which is the ability of consumers to confirm that they have previously been exposed to a particular brand, and brand recall, which reflects the ability of consumers to name a particular brand when given the product/service category, category need or some other similar cue such as brand logos (Liu, *et al.*,2010).

Marketsare characterized by imperfect and asymmetrical information (Erdem, *et al.*, 2002). Thus, customers areuncertain about the quality of market offerings and therefore perceive their decisions as risky because the consequences of a purchase cannot be entirely anticipated. Arguably, the key assumption is that brand awarenessdrives brand market performance through two mechanisms: itreduces buyer information costs and buyer-perceived risk. In the first mechanism, the reduction of information costs for the buying customer reduces the resource requirements associated with collecting the information necessary for a purchase decision because the buyermay resort to extrinsic cues (Van Osselaer & Alba, 2000).

In this context, brand awareness may function as an important cue and acts as a strong signal of service quality and service provider commitment (MacDonald & Sharp, 2000) because high levels of service provider investment such as in exhibitions, advertising, or packaging) are usually necessary to build high brand awareness. Brandawareness may also signal presence and substance because high awareness levels imply to the buyer that the firm has been in business for a long time, that the firm's products/services are widely distributed, and that the services/products associated with the brand are purchased by many other buyers (Aaker, 1991).

The second mechanism refers to the reduction of perceived risk.It is likely that decision-makers prefer to buy a brand associatedwith high awareness levels because it reduces the risk of their beingblamed if the decision turns out to have been a mistake. The buyer may well assume that the brands they know well are likely to bepurchased by many other buyers (Aaker, 1991). Therefore, they havereason to expect that the purchase of a well-known brand will notresult in any competitive disadvantage. At the same time, brand awareness signals a high service/product quality. Thus, purchasing high awarenessbrands is also associated with reduced functional risk for thecustomer, which further influences brand choice.

2.3.2 Brand Association And Brand Market Performance

Tang and Hawley (2009) citing Aaker (1991) define brand association as anything linked in memory to a brand and, according to Fayrene and Lee (2011), the most accepted aspect of brand equity. Brand associations consist of all brand related thoughts, feelings, perceptions, images, experiences, beliefs and attitudes (Kotler & Keller, 2006). Brand association is related to information on what is in the customer's mind about the brand, either positive or negative, connected to the node of the brain memory (Emari, *et al.,* 2012). A set of associations, usually organized in some meaningful way, forms a brand image. Consequently, brand image can be said to be the brand association or costumer's perception about a particular brand as a result of their association with the brand.

Chen (2001) categorized two types of brand associations; product associations and organizational associations (Fayrene & Lee, 2011; Chen, 2001). Product associations include functional attribute associations and non-functional associations. Functional attributes are the tangible features of a product; while evaluating a brand, consumers link the performance of the functional attributes to the brand (Fayrene & Lee, 2011). If a brand does not perform the functions for which it is designed, the brand has low level of brand equity (Chen, 2001). Non-functional attributes include symbolic attributes which are the intangible features that meet consumer's needs for social approval, personal expression or self-esteem. Organizational associations include corporate ability associations, which are those associations related to the company's expertise in producing and delivering its outputs and corporate social responsibility associations, which include organization's activities with respect to its perceived societal obligations (Fayrene & Lee, 2011).

Brand association acts as an information collecting tool to execute brand differentiation and brand extension (Osselaer & Janiszewski, 2001). Brand association is the key factor which drives the development of brand relationship, because it produces customers' brand loyalty and the effectiveness of the brand-word of mouth (Wang, 2015), elements which assist the establishment of the brand relationship between the brand and customers. Romaniuk & Sharp (2003) argue that anyinformation that comes across in brand association is connected to the brand name in consumer recall, and reflect the brand's image. The higher the brand associations in the product, the more it will be remembered by the consumer and be loyal towards the brand.

Brand association is the platform of a brand relationship development which guides brand maintainers how to use the sources of brand equity to develop the brand relationship between the brand and customers (Wang, 2015). Leone, *et al.* (2011) illustrated that unique brand association are essential sources of brand equity to drive customer behaviour.Mayer (2003) considered that brandassociation is not only an individual brand theory, but also has the measurable feature to test the effectivenessof brand equity in the marketplace. This is becausecustomers' feelings and cognitive capacity produce their brand association toward the performance of the brand equity in the marketplace (Wang, 2015). Thus, therelationship between brand association and brand equityare interacted, which helps brand maintainers to improvethe brand relationship between the brand and customers.Previous research by Pouromid and

Iranzadeh (2012) revealed that the relationship between brand association and brand equity is positive and significant.

2.3.3 Perceived Quality And Brand Market Performance

Perceived quality is the customer's judgment about a product's overall excellence or superiority that is different from objective quality and relates to customer's perception (Tang & Hawley, 2009, Fayrene & Lee, 2011). Perceived quality is one of the antecedents of customer satisfaction and has a positive effect on customers purchase intention (Syzmanski & Henard, 2001). Service quality is central to the development of strong service brands because it enhances perceived superiority of the brands and helps to differentiate brands in markets (Yoo, *et al.*, 2000). Perceived quality decomposed into five components; tangibility, reliability, responsiveness, assurance and empathy. Researches indicate that tangibility and responsiveness have a positive effect on brand loyalty as one of the other dimensions of customer based brand equity and reliability; while assurance and empathy have positive effect on brand image as a brand association dimension of the framework (Kayaman & Arasli, 2007).

2.3.4 Brand Loyalty And Brand Market Performance

In the marketing literature, loyalty has been widely recognized as being of the utmost importance; brand loyalty produces positive word-of-mouth recommendation, and greater resistance among loyal consumers to competitive strategies from rival suppliers.It is widely acknowledged that loyalty has both attitudinal and behavioral components (Odin, *et al.*, 2001). Behavioral loyalty refers to the frequency of repeat purchases. Attitudinal loyalty refers to the psychological commitment that a consumer makes in the purchase act, such as intentions to purchase and intentions to recommend without necessarily taking the actual repeat purchase behavior into account.

The attitudinal loyalty closely linked to the highest level of awareness (top-of-mind), where the matter of interest also is the brand, in a given category, which the consumers recall first. Thus, a brand should be able to become the respondents' first choices (Attitudinal loyalty), and therefore purchased repeatedly (Behavioral loyalty) (Fayrene & Lee, 2011; Kamau *et.al* (2015). Thus, loyalty begins with the customer's becoming aware of the product and the more the customer is aware of the product, the greater the possibility that she or he will purchase the product (Kayaman & Arasli, 2007).

Integrated marketing communications plays indispensable role in convincing consumers' brand loyalty (Seric, *et al.*, 2014). Consumers re-buying or re-patronizing a preferred product consistently has initiated repetitive purchasing of the same-brand or same brand-set. Likewise, brand loyalty influences their purchasing decisions to the same product (Ahmed, 2011; Lam, 2007;Martenson, 2007). In other words, they become loyal with their preferred product brands and stick to well-known brand names (Sun *et al.*, 2004), as well as used it for social recognition (Manrai, *et al.*, 2001). Consumers developed brand loyalty by creating a positive output of brand equity which positively engenders brand preference over other brands (Atilgan, *et al.*, 2005; Binninger, 2008; Ling, 2013; Vogel *et al*., 2008; Zhang, *et al.*, 2014).

2.3.5 Brand Market Performance

Measuring of brand performance has gained increased interest in the area of brand management in recent years (Rubinson & Pfeiffer, 2005). Marketers have been constantly under pressure to justify the impact of marketing activities, which has renewed interest in measures of marketing performance. Amongst the factors that have been cited in the literature as driving this interest include the need for greater marketing accountability, the desire for greater marketing credibility, investor pressures, today's cost cutting environment that no longer accepts a no measurement culture and a greater appreciation that business performance is, amongst other factors, influenced by brand performance (Ambler, 2003; de Chernatony, 2006; Farris, *et al.*, 2008; Rubinson & Pfeiffer, 2005). However, despite these concessions, it is notable within the marketing literature that a universal brand performance measure does not exist (de Chernatony *e* *al.*, 2004; Lehmann, *et al*., 2008) probably because no single brand performance metric is likely to be perfect (Farris, *et al.*, 2008).

A wide range of measurements have been adopted to operationalise brand performance. Some researchers have considered the performance of brand in two parts including the brand market performance and brand profitability performance .Keller (2003) proposed a conceptual model of the sources and outcomes of brand equity (Brand Value Chain) which demonstrates the linkage between a firm's marketing actions, customer mindset measures of brand equity, and the brand's market performance. In the first stage of the brand value chain, the firm invests in a comprehensive marketing program which leads to the second stage, in which there is the development of a set of customer brand attitudes and perceptions. Second stage leads to the third stage where the customer mindset measures affect performance of the brand in the market (measured by various product market outcome measures of brand equity) and leads to the fourth and final stage, in which brand equity is manifested in the form of stock price, price to earnings ratio among other measures of firm and shareholder value (Balmer, 2001)

Baldauf, *et al.*, (2003) considered brand profitability performance as an index of the financial share of a brand in relation to the retailing profits, evaluated using the profit and margin of profit while the brand market performance considers the market demands and evaluates indices such as sale levels and market share. Aaker 1996; Chung, *et al.*, 2013) proposed some brand performance indices related to the evaluation of market behavior: market share, price and distribution coverage and argued that brand performance measurement using the market share often provides a widespread and sensible reflection of the condition of a brand or its customers. According to Aaker (1996), when a brand has a relative advantage in consumer's mind, its market share should increase or at least not decrease. Keller and Lehman (2003) operationalized brand performance in terms of profitability, price premium, price elasticity, market share, cost structure and success in category extension. Chaudhuri and Holbrook (2001) considered relative price and market share as the outcomes of brand performance. Generally, brand performance is often taken in to account as the outcome of brand equity model and defined as the economic results that the producers with strong brands wishes to

Performance is often used as a dependent variable in marketing literature. The performance of brand points out that how successful a brand is in the market and aims to evaluate the strategic successes of a brand (Ho & Merrilees, 2008). Some researchers considered the performance of brand in two parts including the brand market performance and brand profitability performance.They declare that the brand profitability performance is an index of the financial share of a brand in relation with the retailing profits and is evaluated using the profit and the margin of profit while the brand market performance considers the market demands and evaluates the indices such as sale levels and market share (Baldauf, *et al.*, 2003).

In order to evaluate the brand performance Aaker (1996) proposed some indices related to the evaluation of market behavior. He considered the market share, price and distribution coverage as the indices of brand performance measurement and he also pointed out that the brand performance measurement using the market share often provides a widespread and sensible reflection of the condition of a brand or its customers. When a brand has a relative advantage inconsumer’s mind, its market share should increase or at least not decrease. He also points outthat the market share or the sale related information is widely affected by distributioncoverage. If a brand has a main market or loses that or it is developing in a region, the salewill be largely affected (Aaker, 1996).

Keller and Lehman (2003) consider the price elasticity, pricepremium, market share, cost structure, profitability and the success in category extension asthe main indices of brand performance measurement. According to their research, the brandpremium is in fact the added price that a customer pays for the brand of a product and theprice elasticity is the increase or decrease of brand demand as a result of rise or decline inprices. Market share is an index that measures the success of marketing programs in brandunit sales. Cost structure or the ability to reduce the expenditures of marketing programs of abrand is as a result of the prevailing customer mindset. In other words, because customersalready have favorable opinions and knowledge about a brand, any aspect of the marketingprogram is likely to be more effective for the same expenditure level. In addition, accordingto Keller and Lehman (2003); Cobb-Walgren, Ruble & Donthu, 1995) the profitability and the development of opportunities are other factorsof performance measurement and demonstrate the brand success in supporting line andcategory extensions and new product launches to the related categories. It indicates thepotential ability of a brand for development and increase of income flow (Keller & Lehman, 2003).

Chaudhuri & Holbrook (2001) concentrated on relative price and market share as theoutcomes of the performance. They defined the relative price as the ratio of a brand price tothat of the leading competitors. Meanwhile, they introduced the brand market share as thepercentage of a brand sale to total sales of all brands of a product.

2.4 Empirical Review

In an empirical study on the mediating effects of brand association, brand loyalty, brand image and perceived quality on brand equity (Ling & Severi, 2013), the authors utilize a sample of 300 business students of a private university in Malaysia and adopt items used to measure brand association from Kim and Kim (2005) and Yoo, *et al*. (2000). Using mediated regression analysis, Ling & Severi (2013) establish that brand association as an independent variable significantly affect brand loyalty as a mediator and considerably impacted brand equity as a dependent variable. In addition, brand loyalty as a mediator considerably impacted the brand equity as a dependent variable. They conclude that brand loyalty does act as a mediator in mediating the relationship between brand association and brand equity (Ling & Severi, 2013). Berry (2000) examined service brands in his model of brand equity and the brand meaning, a compilation of brand associations that lead to the overall meaning of the brand for the consumer, disproportionately affects brand equity in comparison to brand awareness. The perception of the brand is more critical to brand equity than the mere presence of the brand in the mind of the consumer.

A study by Njuguna, *et al.* (2014) on the moderating effect of industrial context on the relationship between brand equity and consumer choice in branded bottled water Nairobi, Kenya indicated that market place efficacy and valence have a moderating role on the influence of brand equity on consumer choice.

A study by Gladden & Funk (2002) tested the relationship between brand associations and brand loyalty. The authors constructed a list of thirteen brand associations and subsequent measures by a review of previous literature. The thirteen dimensions of brand associations were constructed with at least three items per factor and the dimensions were further segregated based on Keller's three types of brand associations: attributes, benefits, and attitudes. Brand loyalty was conceptualized as containing two components: behavioural and attitudinal loyalty. For behavioural loyalty, three items were constructed while four items measuring attitudinal loyalty were included in order to provide a multidimensional measure of brand loyalty. The results indicated that seven associations had a significant, positive relationship with brand loyalty. In the results reported by Gladden & Funk (2001), three items related to brand attributes and four items related to benefits were considered significant predictors of brand loyalty.

In a similar manner Bauer, *et al.* (2008), Brown & Dacin, 1997). found that brand associations impact brand loyalty in an examination of German football club fans. The authors classified brand associations into brand attributes, benefits, and attitudes. They found that associations related to product attributes impact the benefit associations held by the consumer. Brand benefits impacted the brand attitude held by consumers. Finally, brand attitudes were found to significantly predict the behavioral loyalty of sport consumers. In this sense, a consumer's overall evaluation of the brand impacts his or her behavioral intentions toward the brand. Both Gladden & Funk (2002) and Bauer, *et al.*

(2008) studies have some considerable conceptual weaknesses. Conceptually, brand attitudes should not be considered a dimension of brand associations. Brand attitudes are the consumers overall evaluation of the brand while brand associations are simply thoughts linked to the brand in the mind of the consumer (Alsop, 2005).

Chavera (2015) investigated the relevance of customer based brand equity model in the geographical information systems (GIS) industry in Kenya. The study found that respondents were practicing some of the concepts in customer based brand equity considered to be among the main pillars of customer based brand equity. Among these pillars were brand awareness, perceived quality and brand associations.

Huang & Sarigollu (2012) investigated how brand awareness relates to market outcome, brand equity and the marketing mix by combining survey data with real-market data to investigate the relationship between brand awareness and market outcome and the relationship between brand awareness and brand equity. These authors use brand sales and market share to measure brand market outcome and adopts Ailawadi, *et al.*(2011) measures of brand market performance, that is, revenue premium due to its ability to offer a more complete view than other brand market performance measures, such as market share or price premium and its consideration for both the price and the sales of a brand as well as competitors' performance, which is consistent with brand equity which symbolizes the strength of the brand in the marketplace relative to competitors. Using both regression and cross-prediction analyses to test whether brand awareness is an antecedent of market outcome, the results of Huang and Sarigollu's (2012) study established that a positive correlation exists between brand awareness and brand market outcome. Specifically, there was positive correlation between brand awareness and sales is and between brand awareness and market share at $p <.0001$.

Owino, *et al.* (2016) undertook a study to determine the influence of social media on brand equity in which the main elements assessed were perceived quality, brand awareness and brand loyalty. The study established that these elements have a bearing on building brand equity.

In other related studies of the relationship between brand awareness and brand performance, Kim, *et al.* (2003) using sales as market performance outcome in the hotel industry establishes that brand awareness has a positive relationship with market performance, and that significant differences in brand awareness are found between high and low market performance hotels. Baldauf, *et al*, (2003) investigation of performance consequences of brand equity management in the value chain tile industry using profit and sales as market performance outcomes established that brand awareness is the antecedent of brand profitability and sales. Kim & Kum (2004), in a study of the relationship between brand equity and firms' performance using sales as a market performance outcome in the restaurant industry report that brand awareness has a positive relationship to market performance. Similarly, Kim & Kim (2005) using sales as a market outcome in hotel and restaurant industry report that brand awareness has a positive relationship to market performance. Srinivasan, *et al.* (2009) use sales as a market performance outcome in the consumer-packaged goods industry and report that brand awareness could explain for approximately 3% of the variations in sales.

2.5 Critique of Existing Literature Relevant to the Study

While brand equity concept in tangible goods has received a great deal of attention in the literature, a basic understanding of the nature of brand equity for services has yet to emerge. Most of what is known about brand equity for services is based on theoretical or anecdotal evidence (Kayaman & Arasli, 2007; Cheng & Lee, 2011). Service brands are particularly different since service characteristics are different from those of physical goods and that they rely on employees' actions and attitudes. This difference is seen to focus around the belief that services are conceptually different from products; services are seen to have a number of unique characteristics including intangibility, inseparability of production and consumption, heterogeneity of quality and perishability (Chernatoy & Segal-Horn, 2003).

Notably conceptualization and operationalizationof customer-based brand equityremains somewhat elusive.Brand researchers have devoted considerable attentionto developing and testing such brand-relatedconstructs as brand loyalty, awareness,associations and perceived quality. These established constructs are alsoincluded in various customer-based brand equitymodels (Aaker, 1991, 1996; Agarwal& Rao, 1996; Keller, 1993; Yoo, Donthu, & Lee,2000).Although it is apparent that customer-basedbrand equity has multiple dimensions, there isno generalagreement in current marketing literatureas to the nature and content of thesedimensions. Previous research has proposedtwo (Keller, 1993), three (Faircloth e. al.,2001), four (Aaker, 1991;Yoo, *et al*., 2000), five (Lassar *et al.*, 1995), and even eight (Vazquez, *et al.*, 2002) dimensions.However,many of these brand equity dimensions havenot been systematically measured or validatedwithin anomological framework.

Brand awareness relates to the likelihood that a brand name will come to mind and the ease with which it does so (Keller, 1993; Bauer, Sauer & Exler, 2008). It is based on both brand recognition and recall (Aaker, 1991; Keller, 1993). However, the studies regarding brand awareness are mostly focused on its effect on brand choice. Other issues related to brand awareness, such as the sources of brand awareness, its underlying structure and its effect on consumer purchase behavior, are also studied, but its effect on overall brand equity is narrowly investigated in the literature. The studies of Yoo, *et al.* (2000) and Yoo & Donthu (2001) incorporate this dimension into their empirical models but have not detected any direct effect on brand equity. Therefore, in their studies, it is simply combined with brand associations.

In the customer-based brand equity frameworks(Aaker, 1996; Keller,2003), perceivedquality is considered a primary dimension. Performanceand features are some of the productquality dimensions (Yoo, *et al.,* 2000). However, in the context of service brands, servicequality dimensions, reflectthe characteristics of a service business suchas reliability, responsiveness, and tangibles (Parasuraman, *et al.,* 1985).

The concept of brand loyalty is examinedmainly from two broad aspects, whichare behavioral (or purchase) loyalty (Agrawal,1996; Chaudhuri & Holbrook, 2001) and attitudinal loyalty (Chaudhuri &Holbrook, 2001). Behavioral loyalty refers torepeat purchases and is related with how oftenand how much consumers purchase a brand(Aaker, 1991; Keller, 2003). It also encompassesthe comparison of the brand with other brandsoffering similar benefits (Aaker, 1996). Fournierand Yao (2008) and Dekimpe, *et al.*, (1997) suggested that anideal measure of brand loyalty should incorporateboth behavioral and attitudinal aspects. Forinstance, consumers with a great deal of attitudinalattachment to a brand may state that they“love” the brand (Keller, 2003, p. 93) or considerthemselves “loyal customer(s)” (Yoo, *et al*.,2000). Another distinguishing feature of brandloyalty is the “sense of community” (Keller,2003). Identification with a brand community(such as friends or acquaintances) is a necessity for active engagement with the brand (Keller,2003; Bendixen, M., Bukasa K.A. &Abratt R, 2004)). However, brand loyalty, as one ofthe most important determinants of brand equity, has received relativelyless attention in terms of cross culturalissues and empirical approaches.

Assessing brand equity from the perspective of the firm may provide a measure of the financial value of the brand to the firm, but it fails to colligate the fundamental basis of the brand equity concept, which subsumes that the equity of a brand is an intangible asset residing in the minds of consumers. Similarly, measuring brand equity from the perspective of the consumer gives portrays the value that the brand name provides to the consumer in the form of the consumer’s attitudes or perceptions of the brand, but it does not show how these mindset measures can be translated into more tangible measures of a brand’s financial value or its market performance, which may be more useful for managers. Therefore, this study employed simultaneous consumer-based and financial-based approaches to measuring and managing brand equity and treated financial-based performance metrics as endogenous to customer-based brand equity to develop a comprehensive picture of the customer-based brand equity-brand market performance relationship.

2.6 Research Gap

In studying brand equity formation, there is need for the development of more comprehensive methodological approaches to brand equity. The gap in the literature and in practice exists in consumer-company value creation, consumer,financial as well as marketing-company domains. Empirical literature shows that several authors have taken the brand equity conceptualization approach (Aaker 1991, Keller 1993, Yoo, *et al.* 2000, Ambler 2008, Keller & Lehmann 2006); the brand equity metricapproach as evidenced by Simon & Sullivan (1993), Kamakura & Russell (1993), Ailawadi, *et al.*,(2011), Srinivasan, *et al.*(2009) as well as Yoo, *et al.*, (2011) & Ambler (2008) have tried to investigate the sources of brand equity determinants. Having presented a typology as to what currently exists in the literature, the author concluded that there wasneed for further research that would elicit a better understanding of the antecedents of customer based brand equity, its formation in organizations and its effects on brand market performance.

The researcher, on extensive review of CBBE related studies realized that much of such existing studies relate to CBBE elements and their respective contributory strength towards CBBE. As a whole this research fills the gap and takes this further to determine how those CBBE variables affect brand performance in the market especially in the service sector.

2.7 Summary of the Literature Reviewed

The literature reviewed highlighted the relationship between CBBE and brand market performance metrics. The literature showed that while most of the existing literature on brand equity measurement had adopted either a distinctively consumer-based or a firm-based approach, a number of recent studies had started to look into the link between consumer-based brand equity and the brand's market performance. For example, Srinivasan, *et al.* (2004) calculated the effect of a consumer's incremental choice probability of purchase on a brand's contribution margin to the firm, and Kim, *et al.*

(2003) examined the correlation between consumer-based measures of a brand's perceived quality, awareness, loyalty, and image, and the firm's revenue. Other researchers used regression methods to show the association between perceived quality and firm's stock price, while others showed that brand attitude can predict a firm's stock value and future earnings on the market.

The literature showed that there was a rich, complementary stream of research that specifically examines the link between customer satisfaction (a key component of consumer-based brand equity) and firm performance, particularly in service-oriented sectors and industries. For example, Kotler (1991) suggested that high customer satisfaction ratings were generally believed to be the best indicator of a firm's future earnings. Gomez, *et al.* (2003), in the context of the retail industry, find evidence that changes in customer satisfaction can significantly affect sales performance, particularly satisfaction with a store's service levels.

The results from the above studies provided strong evidence of the existence of a link between consumer and firm-based measures of brand equity. However, many of these studies were primarily descriptive in nature and based on 'reduced-form' approaches, which cannot adequately explain the structural link between the two kinds of brand equity measures and the rationale behind the underlying consumer and firm behaviour in the services sector. In other words, these studies did not provide information on howconsumer-based brand equity affects the brand's market performance in the services sector, and as a result, provided little guidance on what managers can do (in terms of optimal marketing decisions) to maximize their brands' equities in the services sector.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the methodology adopted in executing the study leading to the development of this thesis is systematically described. In particular, thechapter is organized under the sub-headings of research design, study population, sampling frame, sample and sampling techniques, data collection methods, tools and procedures and the data analysis procedures.

3.2 Research Design

Research design can be thought of as the logic or masterplanof a research that provides light on how the study is to be conducted. It shows how all of the major parts of the research study - the samples or groups, measures, treatments or programs, etc - work together in an attempt to address the research questions. Research design can be seen as actualization of logic in a set of procedures that optimizes the validity of data for a given research problem. According to Mouton (2005) a research design serves to plan, structure and execute the research to maximize the validity of the findings. It gives directions from the underlying philosophical assumptions to research design and data collection. Yin (2003) adds that colloquially a research design can be thought of as an action plan for getting from "here" to "there", where ‘here’ may be defined as the initial set of questions to be answered and ‘there’ is some set of answers (conclusions).

This study employed descriptive research design. According to Glass & Hopkins (2008), descriptive research can be either quantitative or qualitative. It can involve collections of quantitative information that can be tabulated along a continuum in numerical form, such as scores on a test or the number of times a person chooses to use a-certain feature of a multimedia program, or it can describe categories of information such as gender or patterns of interaction when using technology in a group situation. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Glass & Hopkins, 2008). It often uses visual aids such as graphs and charts to aid the reader in understanding the data distribution. Since the human mind cannot extract the full import of a large mass of raw data, descriptive statistics are very important in reducing the data to manageable form. When in-depth, narrative descriptions of small numbers of cases are involved, the research uses description as a tool to organize data into patterns that emerge during analysis. Those patterns aid the mind in comprehending a qualitative study and its implications.

The specific type of descriptive research design adopted for this research was field survey design, with quantitative methods of data collection and analysis.The study involved the development of hypotheses and testing those hypotheses using primary data. It also operationalized the concepts used, that is, CBBE and brand market performance using measurable constructs.

3.3 Target Population

The study focused on the retail banking system in Kenya, comprising of commercial banks which provide financial services such as deposits, credit facilities,cash advances and other financial services to their customers. Specifically, the target population for the study were the customers of all the commercial banks in Kenya and the senior managers of these commercial banks. The CBK Bank Supervision Annual Report for the year ending December 2015 provided a total listing of 44 commercial banks in Kenya as at 31stDecember 2015, with a total of 35,194,496 account holders (CBK, 2016) which constituted the target population for customers. However, the accessible population comprised 3.6 million customers of 42 commercial bank branches in Mombasa and their respective branch managers.

The choice of the banks' individual customers as the study's target population was premised on the fact that CBBE, one side of brand equity relates to brand strength which is the set of associations and behaviors on the part of the brand's customers, channel members and parent corporation that permits the brand to enjoy sustainable and differentiated competitive advantages. On the other hand, the views of the branch managers were sought in relation to the market performance of their brand which to a large extent represented brand value, the financial outcome of management's ability to leverage brand strength via tactical and strategic actions in providing superior current and future profits and lowered risks for the brand/organization.

3.4 Sampling Frame

The study involved collecting data from individual account holders in a sample ofcommercial banks’ branches in Mombasa and the branch managers of the sampled branches. Thus, the sampling frame for the study comprised atotal of 3,625,234account holders from the branches of the 44 commercial bank branches in Mombasa(CBK, 2015).Each of the individual account holders together with the branch managers of the 80 branches of all the 42 commercial banks was a member of the sampling frame.

3.5 Sampling Technique and Sample Size

The sampling techniques and the sample size of the study are described in the following sub-sections.

3.5.1 Sampling Techniques

The primary sampling unit was a commercial bank while the elementary unit was an individual customer/manager. All the commercial banks' branches were listedand one branch for each bank picked through simple random sampling. For banks with only one branch in Mombasa, the branch was automatically included in the study which was necessitated by the need to have all banks included in the study and to reduce inclusion biaseness. Other banks with more than one branch were proportionately selected to achieve inclusion on the basis of presence(Podsakoff, *et al.*, 2012)

The next level of sampling was the individual customers. The ultimate study participants were picked through systematic simple random sampling procedures where every third customer on the queue for service in each of the sampled branches was picked to respond to the customers' questionnaire until the allocated sub-sample size for each bank was attained. However, taking cognizance of the possibility of the customers to be banking with more than one bank (multi-banking) hence might have responded to the questionnaire at a different bank, and also customers from same branch returning to the branch and who might have responded to the questionnaireearlier, a verbal selection question was used to ensure that an account holder did not participated in the study more than once. The verbal selection question required the customers to indicate whether they had responded to the same questionnaire after explaining the purpose of the survey to the customer.

The final stage in the sampling process involved selection of branch managers of the commercial banks. In this case, all the branch managers of the 42 sampled commercial banks branchesin Mombasa town were automatically included in the study, for the purpose of providing information on the performance of their brands. However, two declined and the number dropped to forty.

3.5.2 Sample Size Determination

The quantitative sample size for the customers of commercial banks was calculated using the following formula (Mendenhall, *et al.,* 1993):

$$n_{srs} = \frac{N\hat{p}_{srs}\hat{q}_{srs}}{\frac{d^2}{1.96^2}(N-1) + \hat{p}_{srs}\hat{q}_{srs}}$$

where

n_{srs} = sample size

N = population size

$\hat{p}_{srs}$ = the estimated proportion

$\hat{q}_{srs} = 1 - \hat{p}_{srs}$

d = desired absolute precision

In this study, the level of precision *d* was set to ±5%

N =3,625,234

Since the researcher was unsure of the exact proportion due to changes in bank customers from the time the CKB report relied upon here was released, -*p*, a value of .5 or 50% was used(Mendenhall, *et al.*, 1993), the reason being that for a given level of precision, a *p* of .5 has the largest sample size. Thus, *q* = 1- *p* = 0.5.

Pq= Component of sample proportion variance estimate (maximum 0.5)

As the variance of the population was unknown, assigning *p*= 0.5 and *q*= 0.5 in this research gave a sample proportion variance (pq)as 0.25. The purpose was to allow the

maximum possible variation contained in the data set. Thus, substituting for the values in the formula, the sample size for the bank customers was calculated as follows:

$$n_{srs} = \frac{3{,}625{,}234(.5)(.5)}{\frac{.05^2}{1.96^2}(3{,}625{,}234-1) + (.5)(.5)} = \frac{906{,}308.5}{2359..445} = 384.1194 = 384$$

The sample size for the commercial customers was therefore approximated to be 384. However, given that it is rarely possible to achieve a 100% response rate in research coupled with the possibilities of outliers and other unforeseen errors in the respondents' responses to the questionnaire items, a higher sample size with an additional 4% of the sample size, bringing the total sample to 400commercial bank customers was targeted.

All the branch managers of the 42commercial banks in Mombasa were automatically targeted for inclusion in the study, which translated to a sample size of 42 branch managers.

3.6 Data Collection Instruments

Quantitative research makes use of questionnaires, surveys and experiments to gather data that is revised and tabulated in numbers, which allows the data to be characterized by the use of statistical analysis (Bhattacherjee ,2012)Consequently, the current study utilized two sets of self-administered quantitative survey questionnaires for gathering primary research data. The first set of the questionnaire collected information on CBBE from the customers of commercial banks (Bank Customers Questionnaire - Appendix II), while the second set of the questionnaire (Bank Managers' Questionnaire - Appendix III) collected data on brand market performance of the commercial banks. The rationale for the use of the two sets of questionnaires as well as the structure of the questionnaires are described in the following paragraphs.

Where data on separate sets of variables on two distinct variables is sought for relational purpose Common Variance Method is appropriate. Podsakoff, *et al.* (2012) state that common method variance (CMV) (variance that is attributable to the measurement method rather than to the constructs the measures represent) can have a substantial impact on the observed relationships between predictor and criterion variables in organizational and behavioural research.The key to controlling method variance through procedural remedies is to identify the common issues between the measures of the criterion and predictor variables and eliminate or minimize them through the design of the study. Thus, to controlthe method bias, the current study carefully considered some concerns with respect to measurement of predictor (CBBE) and criterion (brand market performance) variables.

The dependent and independent variables of this study are casually related,that is, brand market performance and CBBE are simply two different approaches to the concept of brand equity, obtaining measures of the predictor (brand market performance) and criterion (CBBE) variables from different sources was the most plausible measure of controlling method bias in this research. Podsakoff, *et al.* (2012) proposed that researchers interested in research on the relationship between organization's behavioural influences and organizational performance can obtain the behavioural influence measures and performance measures from different sources. The advantage of this procedure is that it makes it impossible for the mindset of the source or rater to bias the observed relationship between the predictor and criterion variable, thus eliminating the effects of consistency motifs, implicit theories, social desirability tendencies, dispositional and transient mood states, and any tendencies on the part of the rater to acquiesce or respond in a lenient manner.

Again, as stated earlier under the target population sub-section, CBBEbeing one side of brand equity that relates to brand strength in form of a set of associations and behaviors on the part of the brand's customers(Christodoulides & de Chernatony 2010), could only be evaluated objectively through customer responses. On the other hand, brand market performancerepresents brand value, the ultimate outcome of management's ability to leverage brand strength via tactical and strategic actions in providing superior current and future profits and lowered risks for the brand/organization (Atilgan, *et al.*, 2009) and thus couldonly be evaluated by the management of the commercial banks.

Based on the foregoing justifications, the two sets of the questionnaire were designed and usedto collect the data used in the study. Thebank customers’ questionnaire had two main parts. Part 1 collected data and information related to the demographic characteristics of the respondents such as age, gender, educational qualification and experience with the bank in years. Part 2 of the questionnaire contained itemsmeasuring brand equity elements that is, brand awareness, brand associations, brand loyalty and perceived quality.

The bank managers' questionnaire also comprised two sections; the first section contained items related to biodata of the respondents and their institutions. In part 2, the questionnaire itemscollected information related to the brand market performance of the commercial banks.

Thefollowing paragraphs describes how CBBE and brand market performance constructs were measured in the context of this study. Brand Awareness: Keller (1993) proposed two dimensions of brand awareness: brand recall and brandrecognition. Brand recognition occurs when a consumer is able to identify a brand that he or shewas previously exposed to. Brand recall occurs when a consumer is able to retrievethe brand in a specific product category when prompted or cued. Brand recognition and brandrecall may be more important depending on the purchasing situation. A valid measure should contain bothdimensions of brand awareness in order to capture top of mind and retrievability of the brand inthe mind of the consumer. Therefore, this study adapted itemsutilized by Yoo, *et al.* (2000) ;Wang, *et al* (2015) in their examination of the relationship between the marketing mixelements and brand equity. Yoo, *et al.* (2000) constructed a brand awareness measure that included itemsthat represented brand recall and brand recognition.

Brand Associations: Brand associations contains the meaning of the brand for consumers (Keller, 1993). Brand associations are mostly grouped into product/service-related attributes like brand performance and non-product/service related attributes like brand personality and organizational associations (Keller, 2003; Netemeyer, *et al.,* 2004; Pappu, *et al.*, 2005). Customers evaluate a product/service not merely by whether the product/service can perform the functions for which it is designed for but the reasons to buy this brand over the competitors such as brand's fault-free and long-lasting physical operationand flawlessness in the product's/services' physical construction. In this research, brand associations were assessed at four levels: functional service attributes; non-functional service attributes; corporate ability and; corporate social responsibility. Consequently, brand associations scale items that assessed these levels were adapted from studies by Chandon, *et al.*(2012) Agarwal & Rao (1996), Aaker (1996), & Yoo, *et al.* (2000).

Perceived quality:was assessed as the customer's judgment about a service's overall excellence or superiority. Consumers use quality attributes that they associate with quality to make judgments (Zeithaml, 2008). Perceived quality is hence formed to judge the overall quality of a product/service. Zeithaml (2008) classify the concept of perceived quality in two groups of factors that are intrinsic attributes and extrinsic attributes. For this study, the service quality measurement scale items were adapted from studies by Parasuraman, *et al.* (1985), Aaker (1996), & Erdem &Swait (1998).

Brand Loyalty: Different levels of loyalty have been described:behavioural loyalty is linked to consumer behaviour in the marketplace that can be indicated by number of repeated purchases (Keller, 1998) or commitment to re-buy the brand as a primary choice (Oliver, 1999 Berens, Van Riel, & Van Bruggen (2005); Cognitive loyalty which means that a brand comes up first in a consumers' mind, when the need to make a purchase decision arises, that is the consumers' first choice. The cognitive loyalty is closely linked to the highest level of awareness (top-of-mind), where the matter of interest also is the brand, in a given category, which the consumers recall first. Thus, a brand should be able to become the respondents' first choice (cognitive loyalty) and is thereforepurchased repeatedly (behavioural loyalty) (Keller 1998). In this study, brand loyalty was measured with items adapted from Dekimpe, *et al*. (1997), Yoo, *et al*. (2000), & Keller (2003).

Brand market performance (BMP): Traditional measures of performance widely used in empirical studies are primarilycentered on financial indicators. However, these measures do not takeinto consideration non-financial objectives of organizations.Aaker (1996)includedbrand market performance constructs in the BrandEquity Ten model. He proposed three BMP constructs:(1) market share;(2) price premium; and(3) distribution coverage. Keller and Lehmann (2003) considered brand performanceto comprise price elasticity and premiums, cost structure, market share,profitability, and expansion success. While organizational performance has been dominantly measured using financial measures such as Return on Assets (ROA), Return on Equity (ROE) and Return on Sales (ROS), subjective measures that rely on research participants' perceptions of their organizations' performance relative to their competitors have been shown to be closed associated with these objective financial. On the other hand, Coleman, *et al.* (2011) called for a holistic approach to the measurement of brand market performance by incorporating financial, customer and employee measures given that brand building through marketing investments is a strategic activity that cannot adequately be justified by applying financial measures in isolation (Keller, *et al.*, 2008; Berry, L. (2000).. Consequently, BMP in this study was measured using eight subjective brand performance measures along financial, customer and employee based dimensions.

3.7 Data Collection Procedure

The first step in the data collection process was obtaining authorization to proceed for field data collection from supervisors upon making the requisite corrections that arose from presentation in the seminar. Once authority was granted, in the second step, the researcher acting on prior appointments met with the branch managers of the sampled commercial bank branches in Mombasa to submit a request for data collection letter brief the managers on the intended survey, secure their permission, support and commitment to allow data collection from their customers and subsequently administer the bank managers' questionnaire in person. The rationale for administering the bank managers' questionnaire at this stage of the data collection process was to avoid collecting data from customers of commercial bank branches whose managers did not wish to participate in the study given that the analysis of CBBE data from the each bank's customers' survey was tied to the corresponding brand market performance data provided by the bank managers. However, to ensure that a maximum number of banks was reached so as to retain the sample as originally designed and allow for scientific generalization of the findings of the research study, a different branch of the same bank for which a branch manager turned down the request to participate in the study was picked by deploying the same procedure described under the sampling techniques sub-section except for banks that had only one branch in the study location.

The third step in the data collection process targeted the customers of commercial bank branches whose managers had successfully responded to the bank managers' questionnaire as described above. In this stage, research assistants who had been recruited and trained on basic data collection approaches as well as facilitation and communication skills were deployed to the participating commercial bank branches with the required number of questionnaires based on the sample design described under section 3.5 of this chapter.

The role of the research assistants was to approach the potential respondents at the premises of each participating bank branch, explain the purpose of the study, secure consent and administer the questionnaire to the consenting customers to fill in their responses and return the filled questionnaires immediately. Data collection from the bank customers was organized to take place during the official business hours of each branch. Therefore, the research assistants were required to remain at their designated bank branches to administer the questionnaire to the customers following the sampling procedures described earlier until they attained their allocated sub-samples targets for each respective bank. The entire process of data collection took place for a period of 3 weeks, commencing 25th January and ending on the 12th February 2016.

3.8 Pilot Study

Finalization of the design of the two sets of questionnaires was proceeded by a pilot study by deploying all aspects of the proposed research adopted. The major aim of piloting was to test the research instrumentfor the study for purpose of reframing or re-organising of deleting looping questions where need be, use the draft instruments to collect data that would be used to obtain reliability estimates on the proposed construct measures and confirm the face validity of the measurement instruments. Piloting is a common practice particularly among marketing scholars in the branding literature (Ailawadi, *et al.,* 2011; Bauer, *et al.*, 2008; Huang & Sarigollu, 2012; Kim & Kim, 2005; Ling & Severi, 2013; Srinivasan, *et al.*, 2009), which has been extensively used to test all aspects of the research design before the actual study not only to ensure the adopted research design works but also to provide an opportunity for the researcher to test and improve on the reliability and face and construct validity of the measurement scales.

Given the significance of piloting as explained in the preceding paragraph, a pilot study was conducted on a sample 40 account holders and 4 managers of four commercial bank branches picked from the same sampling frame as the main study. Selection of the branches of commercial banks that participated in the pilot study was both purposive (aiming at selecting from among banks that had more than two branches) and utilized simple random sampling to pick a branch from the listed branches of such banks. This process ensured that banks with only one branch had a fair chance of participating in the main study since the branches that were included in the pilot survey were dropped from the master sampling frame from which the ultimate study sample was selected. The procedures deployed in selecting the elementary study units (actual respondents) to the pilot survey were similar to those employed in the final survey as described under sub-section 3.5.1 of this chapter.

Thesample size for the pilot study represented 10 % of the actual sample size that is generally recommended by social researchers (Mugenda & Mugenda, 2003).Selection of the pilot units from the same sampling frame ensured that these units had similar socio-demographic characteristics as those in the actual study to provide reliable comparisons of the findings of the pilot study to those of the actual survey. On the other hand, excluding the pilot units from the final sampling frame was aimed at avoiding contamination of the ultimate sample through the possibility ofconducting the study on respondents who would already have had prior knowledge of the research instruments

The response rate from the pilot survey was 100%, where all the 40 bank customers' and 4 bank managers' questionnaireswere successfully completed and therefore usable.Therefore, following the successful pilot study, the data from the bank customers' questionnaires were entered into the computer via the Statistical Package for Social Sciences (SPSS Version 23) with the aim of carrying out statistical tests to assess initial reliability estimates of CBBE measurement scales.

A post-study evaluation of the pilot survey indicated that the research design that had been proposed for the study was indeed applicable, as it was executed without any major hitch. The sampling strategies were deployed successfully as designed. In addition, no major technical issues materialized with regard to the administration of the survey questionnaire. The pilot respondents, when asked to state whether they had experienced any difficulty in responding to any one of the questions in the questionnaire, didindicate that the questions were easy to understand and therefore respond. On average, it took a respondent 15 minutes to compete the questionnaire survey.

3.8.1 Reliability of Research Instrument

Reliability describes the degree to which measures are free from error and therefore yield consistent results. It refers to the consistency, stability and repeatability of results i.e. the result of a researcher is considered reliable if consistent results have been obtained in identical situations but different circumstances (Twycross & Shields, 2004). Two dimensions underlie the concept of reliability: repeatability (or stability over time) and internal consistency (or homogeneity of the measure) (Zikmund, 2010).

Repeatability, or stability-over-time reliability, may be measured with the test-retest method, whereby the same scale or measure is administered to the same respondents at two separate points in time then comparing the scores from repeated testing of the same participants with the same test (Zikmund, 2010). Reliable measures should produce very similar scores. However, test-retest procedures may not be useful when participants may be able to recall their previous responses and simply repeat them upon retesting.

Internal consistency, or homogeneity, may be measured by using either the split-half method, alternate-form method, or Cronbach's alpha method. The split-half method is one that measures the degree of internal consistency by checking one half of the results of a set of scaled items against the other half, i.e. comparing scores from different parts of the test (Zikmund, 2010). The method demands equal item representation across the two halves of the instrument. Clearly the comparison of dissimilar sample items will not yield an accurate reliability estimate. One can ensure equal item representation through the use of random item selection, matching items from one half to the next, or assigning items to halves based on an even/odd distribution .The alternate-form method is one that measures the correlation between alternative instruments, designed to be as equivalent as possible, administered to the same group of subjects, i.e. by comparing scores from alternate forms of the test (Zikmund, 2010).

The most common method of assessing internal consistency reliability estimates is through the use of coefficient alpha. Though there are three different measures of coefficient alpha, the most widely used measure is Cronbach's coefficient alpha. Cronbach's alpha is actually an average of all the possible split-half reliability estimates of an instrument. Cronbach's alpha is a reliability coefficient that measures inter-item reliability or the degree of internal consistency/homogeneity between variables measuring one construct/concept i.e. the degree to which different items measuring the same variable attain consistent results.

The Cronbach alpha coefficient varies from 0 to 1, with a value of 0.6 or less generally indicating unsatisfactory internal consistency reliability (Malhotra, 2004). Ideally, the Cronbach alpha coefficient of a measurement scale should be above 0.7 (DeVellis, 2007). In business research, the acceptable reliability estimates range from 0.70 to 0.80 (Nunnally & Bernstein, 1994). Kothari (2010) observes that a high Cronbach's Alpha value indicates higher consistency for a given scale. Several marketing researchers in the area of CBBE have reported satisfactory values of Cronbach alpha, that is, above 0.7 (Ailawadi, *et al.*, 2011; Baldauf, *et al.*, 2003; Bauer, *et al.*, 2008; Huang & Sarigollu, 2012).

Cronbach alpha values are, however, quite sensitive to the number of items in the scale. With short scales for instance scales with fewer than ten items, it is common to find quite low Cronbach values (Briggs & Cheek, 1986). Nevertheless, one way of improving the value of the Cronbach alpha is deleting from the scale items that contribute to the lower value of the alpha coefficient. This is done by assessing the value of the corrected item-total correlations (CITC). CITC is the correlation between an item and the rest of the scale, without that item considered part of the scale. If the correlation is low for an item, this means the item isn't really measuring the same thing the rest of the scale is trying to measure (Field, 2005). Briggs & Cheek (1986)

recommend an optimal range for the CITC of .2 to .4, while Nunnally & Bernstein (1994) recommend a value of >.30 as an acceptable corrected item–total correlation. More recently, Hair *et al.*, (2010) have vouched for a CITC value of >.50.

In the current study, data from the pilot study wassubjected to statistical analysis to test run internal consistency reliability tests in order to determine whether there were any problematic items, with the aim of revising the items in the questionnaire before actual field data collection.Consequently, Cronbach's alpha and CITC analyses were conducted on the data from thepilot survey to determine the degree of internal consistency of each variable's measurement scale. At this stage, a cut-off value for Cronbach alpha was set to

0.7 based on the foregoing arguments while the CITC value that was adopted was 0.3 (Nunnally & Bernstein (1994). At this stage, measurement scales with Cronbach alphas lower the 0.7 were targeted for revision by earmarking items with CITC values lower than 0.3 that contributed to the low alpha values for deletion from the affected measurement scales (Field, 2005).

Detailed results of reliability item-total statistics with CITC values for each scale item for the four CBBE measurement sub-scales are provided in Appendices IV (a) to IV(d). A summary of Cronbach alpha values for the five measurement sub-scales(four independent variable and one dependent variables and is presented in Table 3.1.

Table 3.1: Cronbach's Alpha Reliability Analysis Results for CBBE MeasurementSub-Scales After Piloting

Measurement Scale	Initial Item Pool	Initial Cronbach Alpha	Number of Items after Piloting
1. Brand Awareness	8	0.827	8
2. Brand Associations	10	0.851	10
3. Perceived Quality	9	0.819	9
4. Brand Loyalty	13	0.886	13
5. Brand Market Performance	8	0.771	8

Cronbach alpha and corrected item-total correlation analysis results indicated produced encouraging results of measurement reliability. At the onset, all measurement items in each of the four dimensions of CBBE attained the threshold CITC values above 0.3

(Appendices IV(a) - IV(d)) hence no item was deleted from the measurement scales. On the whole, the measurement scale had Cronbach alpha coefficients as follows: Brand Awareness (8 items) = 0.827; Brand Associations (10 items) = 0.851; Perceived Quality (9 items) = 0.819 ; Brand Loyalty (13 items) = 0.886 and Brand Market Performance(8 items)=0.771 Thus, based on these results, the CBBE measurement scales in the Bank Customers Questionnaire and Bank managers Questionnaire were adopted as they originally were for the full study.

Further reliability analyses were conducted after the full study and reported in Chapter Four. Nevertheless, additional reliability statistics were also reported during the measurement scales' validation processes as discussed in the next Chapter.

3.8.2 Validity of the Research Instrument

Validity has been defined asthe extent to which a measuring instrument measures what it aims to measure (Thatcher, 2010). A measure is valid if it measures what it is supposed to measure, and does so cleanly – without accidentally including other factors. The focus here is not necessarily on scores or items, but rather inferences made from the instrument, i.e., the behavioural inferences that one can extrapolate from test scores is of immediate focus. In order to be valid, the inferences made from scores need to be appropriate, meaningful, and useful (Gregory, 1992). These distinctions illuminate the inextricable link between validity and reliability. On the other hand, Thatcher (2010) and Twycross & Shields (2004) argue that it is possible for a measurement to be reliable but invalid, but if a measurement is unreliable, then it cannot be valid.

Validity is best understood and examined within the context of its four discrete facets: content validity, construct validity, criterion validity and consequential validity. However, in this study,only content and construct validities were considered. Content validity considers whether or not the items on a given test accurately reflect the theoretical domain of the latent construct it claims to measure. Items need to effectively act as a representative sample of all the possible questions that could have been derived from the construct (DeVellis, 2007; Gregory, 1992). Crocker and Algina (1986) suggest employing the following four steps to effectively evaluate content validity: 1) identify and outline the domain of interest, 2) gather resident domain experts, 3) develop consistent matching methodology, and 4) analyze results from the matching task.

In the current study, the following steps were followed in an effort to achieve content validity of the measurement scales. First, an extensive theoretical and empirical literature review was conducted and all the relevant elements that in literature make up each of the measurement domains were explored. Second, a panel of three MBA - marketing students with interests in branding was constituted and each one asked to pickthe elements/items that they felt best represented each of the measurement domains. The panel members were also asked to suggest any other element that they felt might have been left out and which was important to each of the domains. At the end of this exercise, elements upon which the panel showed convergence wereput aside while those on which divergent opinions materialized were subjected to further panel deliberations and discussion, where those that were agreed upon were placed in their relevant domains with those that were not agreed upon discarded.

In the third step, the items under each domain were put into positive statements using unambiguous, simple English that the respondents would be able to read and understand without straining. The fourth and final step involved a review of the developed measurement scales by two peers who were brand managers of two leading service firms in Mombasa City as well as PhD candidates in marketing, providing expert judgment of the measurements.

The second form of validity assessed in the current study was construct validity. Construct validity refers to the degree to which inferences can legitimately be made from the variable measurements in a study to the theoretical constructs on which those measurements were based (Trochim, 2006). It is the degree to which a study's measurements accurately reflect the construct of interest. Construct validity of a measure is directly concerned with the theoretical relationship of a variable to other variables. It is the extent to which a measure 'behaves' the way that the construct it purports to measure should behave with regard to established measures of other constructs (Trochim, 2006). The operationalization of the construct involves developing a series of measurable behaviors or attributes that are hypothesized to correspond to the latent construct. A construct needs to be both operationalized and syntactically defined in order to measure it effectively Defining the construct syntactically involves establishing hypothesized relationships between the construct of interest and other related constructs or behaviors (Gregory, 1992). Crocker & Algina (1986) provide a series of steps to follow when pursuing a construct validation study: 1) generate hypotheses of how the construct should relate to other constructs of interest and relevant group differences, 2) choose a measure that adequately represents the construct of interest, 3) pursue empirical study to examine the relationships hypothesized, and 4) analyze gathered data to check hypothesized relationships and to assess whether or not alternative hypotheses could explain the relationships found between the variables.

Toassess construct validity in this study, statistical procedures were conducted on the measurement scales based on theoretically grounded relationships between the variables (criterion-related evidence). Specifically, statistical analyses were conducted to assessmainly discriminant and convergent validities. As suggested by Fornell& Larcker (1981) convergent and discriminant validitieswere assessed based on the values of average variances extracted (AVE). Assessment of convergent validitywas based on factor loadings and measurement error.Convergent validity is established if the AVE score for a construct exceeds a threshold of 0.50(Fornell & Larcker, 1981), which indicates that the variance captured by the construct is greater than the varianceassociated with error.

Discriminant validity provides evidence of the extent to which a constructdiffers from other constructs. According to Fornell & Larcker (1981), discriminant validity isexhibited if the AVE score of a given construct is greater than the squared correlation betweenthe examined construct and any other construct of interest.Results and further discussions on the assessment of both convergent and discriminant validities are present in the next chapter of this thesis.

3.9 Data Analysis and Presentation

The purpose of analyzing the research data collected in the course of the current study was to determine whether the data confirmed or disconfirmed the theoretical relationships between CBBE variables and brand market performance. In other words, the analysis was aimed at determining whether the data adequately represented the theoretical relationships highlighted in the chapter on literature review in this thesis. However, it is important to note that assessing such relationships required the deployment of robust statistical data analysis software and tools to develop reliable and valid variable measurements that were subsequently employed in testing the hypothesized relationships.

While a number of statistical data analysis software exist, the choice of a particular software dependents on among other things, the type of statistical procedures to be adopted in the analysis of data, which in turn depends on the objectives of the study and types data; availability of the software and; knowledge and competence of the researcher in the use of the software. In the current study, four data management and analysis programmes/software were aided in the management and analysis of data, namely SCPro 6.3, MS Excel, the Statistical Package for Social Sciences (SPSSVersion 23)and the Analysis of Moment Structures (AMOS 23). These programmes/software were deployed at different stages of data management and analysis as described in the next sub-sections and in the next chapter on the results and discussions.

With the aid of the statistical data analysis programmes/software adopted in this study, a variety of data analysis techniques and tools were employed to accomplish the purpose of data analysis as earlier described.Data management and analysis proceeded systematically through the stages and employing the analytical techniques described under the followingsub-sections. In particular, the steps followed in data analysis included: data processing, entry and screening, descriptive analysis, reliability analysis, validation of the measurement scales through exploratory and confirmatory factor analyses and hypothesis testing through.

3.9.1 Data Processing, Entry and Screening

The first step after field data collection constituted data processing where the collected data was checked for completeness, edited, coded and entered into the computer through CSPro 6.3 before exportinginto the SPSS 23. Use of CSPro 6.3 enabled the researcher to conduct range checks through flagging of errors by immediately sending an error message whenever an invalid value was entered or in situations that presented logical or natural impossibilities.Use of CSPro 6.3 also enabled entry of data devoid of out-of-range values.

3.9.1.1 Data Screening

This stage of data management was accomplished in the SPSS 23 and involved examination of the data enteredwith the main aim of handling missing data. Accordingly, in order to achieve a high level of precision in the handing of missing data, a double check was performed. In the first check, all entries were verified case by case and in the second check, the data wasexplored usingstatistical tools, mainly frequency distributions and percentages. Examination of missing data was conducted with the intention omitting cases (questionnaires) that would be found to have at least 20% unanswered questions as recommended by Hair, *et al.,* (2010). Missing values reduce statistical inference power and adversely affect the accuracy of estimation due to an increase in variance (Fichman & Cummings, 2003). Further description of how screening for missing data was accomplished and missing data handled is provided in the next chapter (section 4.3.1).

3.9.1.2 Assessment of Normality and Outliers

Field (2005) outlines how statistical techniques such as exploratory and confirmatory factor analysis are based on parametric data (data that assumes normal distribution). Normality in the data is often a conventional assumption in the estimation process. Data distribution with either a highly skewed nature or with high kurtosis is indicative of non-normality which has random effects on specification or estimation. Non-normality may exist due to the presence of outlier cases in the data set.

An outlier is a case with such an extreme value on one variable (a univariate variable) or such a strange combination of scores on two or more variables (multivariate outlier) that they distort statistics (Tabachnick & Fidell, 2001).One way to identify univariate outliers is to convert all of the scores for a variable to standard scores.If the sample size is small (80 or fewer cases), a case is an outlier if its standard score is ±2.5 or beyond.If the sample size is larger than 80 cases, a case is an outlier if its standard score is ±3.0 or beyond.

Multivariate outliers can be identified using Mahalanobis' distance (D^2) (Mahalanobis, 1936). Mahalanobis D^2 is a multidimensional version of a z-scorefor estimating how fareach case is from the centre of all the variables' distributions. It measures the distance of a case from the centroid (multidimensional mean) of a distribution, given the covariance (multidimensional variance) of the distribution.A case isconsidered to be a multivariate outlier if the probability associated with its D^2 is 0.001 or less. D^2 follows a chi-square distribution with degrees of freedom equal to the number of variables included in the calculation. Therefore, with the aid of the SPSS, assessment of univariate outliers was conducted by assessing standardized z scores to determine whether there were any that were ±3.0 or beyond. On the other hand, multivariate outliers were assessed by evaluating Mahalanobis D^2greater than χ^2 ($p<0.001$)as recommended by Tabachnick & Fidell (2001). Further details on assessment of outliers are described in section 4.3.2 of the next chapter on results and discussion.

Three types of tests were conducted on the CBBEvariables' measurement scale items to check for parametric data assumptions (assumptions of normality).The normality assumption for each brand CBBE variables'item was tested via inspection of histograms in addition to the Skewness and Kurtosis tests. Given that a histogram is quite subjective, the latter two tests are regarded as necessary. Detailed description of how assumptions of normality were tested and the results obtained are presented in the next chapter (4.3.2).

3.9.2 Descriptive Analysis

The aim of descriptive analysis was to describe the sample population and respondents' response variations on the variable measurement scales. The most appropriate data analysis software for this type of analysis was the SPSS 23. To describe the demographic characteristics of the survey sample, descriptive statistics that included mainly distributions and percentages were used. On the other hand, means and standard deviations were employed in analyzing and describing response variations on CBBE variables as responded to by bank customers, and brand market performance based on bank managers' responses.

In addition to means and standard deviations, other descriptive statistics utilized were Skewness and Kurtosis which were deployed in assessing the assumptions of normality of in the distribution of the data. Generally, descriptive analysis was important in providing a preliminary understanding of variable distributions among the study population.

3.9.3 Factor Analysis

The first step before hypothesis testing was to assess CBBE measurement scale structures. Factor analysis isan interdependence oriented technique whose main purpose is to define the underlying structure among the variables in the analysis. Unlike dependence oriented techniques like regression analysis and ANOVA, factor analysis provides the tools for analyzing the structure of the interrelationships among a large number of variables by defining sets of variables that are highly interrelated, known as factors (Hair, *et al,* 2006). The main purpose of conducting a factor analysis is to summarize the information contained in a number of original variables into a smaller number of factors without losing much information.

There are two methods for generating the factors which represent the structure of the variables in the analysis. These methods are known as Principal Component Analysis (PCA) and Factor Analysis (FA). In PCA, the variance in the observed variables is analyzed whereas in FA only the common or shared variance is analyzed. There are two approaches to factor analyses that were adopted in this study, namely exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

In EFA, data is summarized by grouping together variables that are correlated thereby creating a factor structure inductively. CFA isa way of testing a hypothesized factor structure by assessing how well measured variables represent a smaller number of constructs. CFA differs from exploratory factor analysis insofar that prior to statistical analysis a factor structure is specified which should be grounded in theory (Anderson & Gerbing, 1988). Since all scales were adapted from different studies and modified to the context of services sector, it was important to conduct exploratory and confirmatory factor analyses.

In this study, the process of data reduction was carried out in three stages. First, the reliabilities of all the CBBE constructs' measurement scales were examined (Churchill, 1979) using the Cronbach and CITC procedures described under the reliability analysis section presented earlier (3.8.2). Second, an EFA was conducted to examine the loadings of the questionnaire items on their factors. Third andfinally CFA was conducted using Maximum Likelihood Estimation method and then determining composite reliability which is a measure of internal consistency similar to Cronbach's alpha, convergent validity and discriminant validity of the measurement scales. These analytical procedures are further described in the following sub-sections.

3.9.3.1 Exploratory Factor Analysis

Exploratory factor analysis was performed in SPSS 23. The purpose of employing EFAwas to summarise or describe the large number of manifest CBBE measurement variables (items) using a relatively small number of dimensions or latent variables. These latent variables would represent the relationships between sets of interrelated manifest variables (Tabachnick and Fidell, 2007). During EFA,the number of manifest variables is reduced through summarization and data reduction, producing separate dimensions of the structure (Hair, *et al.*, 2006).

As recommended by Churchill (1979), in this study, EFA was conducted after reliability that was aimed at removing from the measurement scales problematic and unreliable items that could result in conceptually irrelevant dimensions being identified.

Before proceeding with EFA, three types of checks wereconducted on the data to determine its suitability for factor analysis. As a first step the correlations between the variables measuring each CBBE construct were examined to assess the extent of multicollinearity or singularity. The second set of statistical tests performed on the data was the Bartlett's test of sphericity (BTS) to examine the presence of correlations among the variables, which provides statistical significance that the correlation matrix has significant correlations among at least some of the variables. The third test performed was the The Kaiser-Mayer Olkin Measure of Sampling Adequacy (MSA) which was used to assess the inter-correlations among the variables. MSA value ranges from 0 to 1, with higher values closer to 1 indicating that each variable can be perfectly predicted without error by the other variables.

According to the guidelines provided by Kaiser (1970) and Kaiser (1974) MSA values can be interpreted as follows: Above 0.80 - excellent, above 0.70 - good, above 0.60 -

average, above 0.50 - miserable and below 0.50 - unacceptable. Hair, *et al.* (2006) have suggested that for conducting factor analysis, the MSA value of the variables should be at least 0.50. Detailed discussion on how EFA was proceeded and the results are proved in the next chapter.

3.9.3.2 Confirmatory Factor Analysis

Confirmatory factor analysis was conducted following EFA. The purpose ofCFA was to confirm the unidimensionality of the measurement scales as well as internal consistency and content validity of the scales with respect to convergent and discriminant as well as and composite reliability. Confirmatory factor analysis was performed in the Analysis of Moment Structures (AMOS 23) using structural equation modeling (SEM) analytical procedures.

Structural equation modeling is a statistical approach to testing hypotheses about the relationships among observed and latent variables. Observed variables also called indicator variables or manifest variables. Latent variables also denoted unobserved variables or factors.SEM methodology takes a confirmatory (i.e. hypothesis-testing) approach to the analysis of a theory relating to some phenomenon. The choice of SEM to other multivariate techniques such as regression analysis was informed by the four unique features of SEM listed by Byrne (2010): (1) SEM takes a confirmatory approach to data analysis by specifying therelationships among variables *a priori*. By comparison, other multivariatetechniques are descriptive by nature so thathypothesis testing is rather difficult to do; (2) SEM provides explicit estimates of error variance parameters. Othermultivariate techniques such as regression are not capable of either assessing or correcting formeasurement error which raisesthe possibility of incorrect conclusions due to misleading regression estimates; (3) SEM procedures incorporate both unobserved (i.e. latent) and observedvariables. Other multivariate techniques are based on observed measurements only and; (4) SEM is capable of modeling multivariate relations, and estimating direct andindirect effects of variables under study.

The SEM procedure in this study was accomplished in five steps that involved model specification, identification, estimation, evaluation, and modification (Hair *et al.*, 2006; Kline, 2005; Schumacker & Lomax, 2004).Under the following sections, assumptions of SEM, the model estimation process, evaluation and modification are described.

3.9.3.2.1 Assumptions of Structural Equation Modelling

Before proceeding with SEM, it was important to consider a number of assumptions that needed to be met. First, sample size is an important issue in SEM but no consensus has been reached among researchers at present, although some suggestions are found in the literature (Kline, 2005). Since Maximum Likelihood Estimation (MLE) is a common estimation procedure used in SEM software, Ding *et al.*, (1995) recommend that the minimum sample size to use MLE appropriately is between 100 to 150 participants. Raykov & Widaman (1995) recommended that the minimum sample size should be greater than the elements in the correlation matrix, with preferably ten participants per parameter estimated. Kline (2005) suggested that 10 to 20 participants per estimated parameter would result in a sufficient sample.

The second assumption was multicollinearity.This refers to situations where measured variables (indicators) are too highly related. This is a problem in SEM because researchers use related measures as indicators of a construct and, if these measures are too highly related, the results of certain statistical tests may be biased. The usual practice to check for multicollinearity is to compute the bivariate correlations for all measured variables. Any pair of variables with a correlations higher than $r = .85$ signifies potential problems (Kline, 2005). Thus, multicollinearity diagnostics were conducted on the indicators before proceeding with SEM.

Third, assumption was multivariate normality. The widely used methods in SEM assume that the multivariate distribution is normally distributed. Kline (2005) Norazah,(2013) indicated that all the univariate distributions are normal and the joint distribution of any pair of the variables is bivariate normal. The violation of these assumptions may affect the accuracy of statistical tests in SEM. For example, testing a model with nonnormally distributed data may incorrectly suggest that the model is a good fit to the data or that the model is a poor fit to the data. However, this assumption is hardly met in practice. Nevertheless, assumption of normality was assessed as described in section 3.9.1.2 of this chapter and also section 4.3.2 in the next chapter.

The final assumption in SEM is the issue of missing data. While the presence of missing data is often due to factors beyond the researchers control, depending on the extent and pattern, missing data must be addressed if the missing data occur in a non-random pattern and are more than ten percent of the overall data (Hair *et al.*, 2006). The process through which missing data was addressed in this study has been described in section

3.9.3.2.2 Structural Equation ModellingProcess

The SEM process centers around two steps: validating the measurement model and fitting the structural model. The measurement model relates observed responses or variable indicators to latentvariables and sometimes to observed covariates (i.e., the CFA model). Thestructural model then specifies relations among latent variables and regressions oflatent variables on observed variables. The measurement model is accomplished primarily through confirmatory factor analysis, while the structural model is accomplished primarily through path analysis with latent variables.

The relationship between the measurementand structural models is further defined by the two-step approach to SEM proposedby James, Mulaik & Brett (1982). The two-step approach emphasizes the analysisof the measurement and structural models as two conceptually distinct models.This approach expanded the idea of assessing the fit of the structural equationmodel among latent variables (structural model) independently of assessing the fitof the observed variables to the latent variables (measurement model).

Therationale for the two-step approach is given by Joreskog & Sorbom (2003) whoargued that testing the initially specified theory (structural model) may not bemeaningful unless the measurement model holds. This is because if the chosenindicators for a construct do not measure that construct, the specified theory shouldbe modified before the structural relationships are tested. As such, researchersoften test the measurement model before the structural model.One starts by specifying a model on the basis of theory. Each variable in the model is conceptualized as a latent one, measured by multiple indicators. Several indicators are developed for each model, with a view to winding up with at least three per latent variable after confirmatory factor analysis. The researcher proceeds only when the measurement model has been validated.

In this thesis, only the measurement model was estimated in SEM on CBBE. The structural model was not estimated due to the fact that data on the independent variables (CBBE) was collected from customers while data on the dependent variable (brand market performance) was collected from bank managers of commercial banks utilizing different sample sizes. The rationale for collecting data on the CBBE and brand market performance on separate samples has been explained under the section on target population (3.3) and data collection methods (3.6), while issues related to the sample size assumptions that made it implausible to employ SEM in the estimation of the structural model have been discussed in the preceding section and further highlighted under the section on hypothesis testing (4.9) in the next chapter.

Based on the foregoing, the purpose of estimating the CBBE measurement model in this thesis was to verify the unidimensionality of the latent constructs by assessing the acceptability of fit of CBBE indicators on their hypothesized latent variables (Hair *et al.*, 2006). This ensured that the final measurement model retained only items that validly and reliably measured each dimension of CBBE empirically. Thus, the measurement models were assessed for their fit based on model fit indices while their psychometric properties were examined on the basis of standardized loadings, the error variance, the construct reliability and the variance extracted. The following section describes model fit evaluation and modification.

3.9.3.2.3 Model Evaluation and Modification

The main goal of estimating and fitting the measurement models was to determine how well the data fit the models. Yuan (2005) argues that assessing whether a specified model fits the data is an important step in SEM. Hooper, *et al.* (2008) describe model fit as the extent to which a statistical model best represents the data and reflects an underlying theory. In other words, in fitting the model, the researcher wishes to compare the predicted model covariance (from the specified model) with the sample covariance matrix (from the obtained data).

Researchers agree that fit indices fall into three categories: absolute fit (or model fit), model comparison (or comparative fit), and parsimonious fit (Schumacker & Lomax, 2004). These fit indices and particularly those that were adopted in this thesis are described below.

Absolute Fit Indices: These category of fit indices measure how well the specified model reproduces the data.They provide an assessment of how well a researcher's theory fits the sample data(Hair *et al.*, 2006). The absolute fit indices considered in the current thesis are the χ^2 (chi-squared) test, Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), Incremental Fit Index (IFI), and Standardized Root Mean Residual(SRMR).

The χ^2 (chi-square) is the main absolute fit index whichtests forthe extent of misspecification. As such, a significant χ^2 suggests that the modeldoes not fit the sample data (Barrett, 2007). In contrast, a non-significant χ^2 is indicative of amodel that fits the data well. In other word, the aim was to get the *p*-value attached to the $\chi^2$to be non-significant in order to accept the null hypothesis that there is nosignificant difference between the model-implied and observed variances andcovariances. However, the χ^2has been found to be too sensitive to sample sizeincreases such that the probability level tends to be significant (Joreskog & Sorbom, 2003). The χ^2also tends tobe greater when the number of observed variables increases. Consequently, a non-significant*p*-level is uncommon, although the model may be a close fit to theobserved data. For this reason, the χ^2 cannot be used as a sole indicator of model fit in SEM. Therefore, in the case of larger samples (over 200) will almost always be significant(Schumacker, R.E. & Lomax, R.G. (2010). In the case of a sample over 250 and more than 12 variables we can almost always count on a significant chi-square (Hair etal.2009), thus we do not regard the significance level of the chi-square as normative. In the case of large samples and complex models we can use the absolute value of the chi-square for comparing two models (searching for the smaller value).

Goodness of Fit Index (GFI) varies from 0 and1, and should be greater than 0.90 to accept the model (Garson2015). One of the deficiencies of the GFI is that it may suggest good fit even in the case of mis specified, misfitting models. Due to its deficiencies,the GFI is not a recommended fit index anymore.Were port the GFI values because the consumer-based brand equity model presented here also reported GFI. The GFI assesses the relative amount of the observed variances and covariances explained by the model. It is analogous to the R^2 inregression analysis. For a good fit, the recommended value should be GFI > 0.95(1 being a perfect fit) (Tabachnick and Fidell, 2007).

Root Mean Square Error of Approximation (RMSEA) corrects the tendency of the $\chi^2$to reject models with large same size or number of variables. It counter balances the deficiency of the chi-square as a result of which the chi-square rejects the model estimated on larger samples (Hair*etal.*2009). RMSEA below 0.5 indicates avery good fit and .08value indicates a good fit and it is often reported with a confidence level at 95% level to account for sampling errors associated with the estimated RMSEA (Hooper *et al.*, 2008, Hair *et.al*,2009).

StandardizedRootMean Residual (SRMR) -The SRMR measures the average difference between the covariance matrix predicted by the model and the observed covariance matrix; under 0.5 it indicates a good fit.The Amos does not always print it separately in the out put, so it will not be referred often in this thesis.

Incremental Fit Index (IFI) – The IFI is relatively independent from the sample size;therefore it is apreferred indicator (Garson 2015). If its value exceeds 0.9, it indicates agood fit.

Comparative Fit Indices: In comparative fitting, the hypothesized model is assessed on whether it is betterthan a competing model and the latter is often a baseline model (also known as anull model), one that assumes that all observed variables are uncorrelated.The comparative fir indices reported in this thesis are the Adjusted Goodness-of-Fit Index (AGFI), Normed Fit Index (NFI) and Tucker Lewis Index (TLI).The AGFI adjusts the GFI based upon degrees of freedom, with more saturated models reducing fit (Tabachnick and Fidell, 2007). The AGFI tends to increase with sample size. The value of AGFI range from 0 to 1, with a good fitting model having a value of 0.90 or greater indicate.

The NFI assesses the model by comparing the χ^2 value of the model to the χ^2 of the null model. NFI values range between 0 and 1, with values greater than 0.90 being recommended for a good model fit (Kline, 2005).Another comparative fit index is the **Tucker-Lewis Index (TLI),** also called the Bentler-Bonnet NNFI (nonnormed fit index) is used to compare a proposed model to the null model. Since the TLI is not normed, ts values can fall between 0 and 1. Typically, models with a good fit have values that approach 1.0 (Tabachnick and Fidell, 2007). A TLI value over0.9indicatesagoodfit,although Schumacker&Lomax(2004)indicated 0.95as the cutoffvalue.

Parsimonious indices assess the discrepancy between the observed and impliedcovariance matrix while taking into account a model's complexity (Tabachnick &Fidell, 2007). A simple modelwith fewer estimated parameters will always get a parsimony fit. This is becausealthough adding additional parameters (thus increasing the complexity of a model) will always improve the fit of a model but it may not improve the fit enough tojustify the added complexity. The parsimonious indices are computed using theparsimony ratio (PR), which is calculated as the ratio of degrees of freedom usedby the model to the total degrees of freedom available (Marsh, Balla, & McDonald,1988). A widely used parsimony fit index which is reported in this study is the Comparative Fit Index (CFI) which indicates the relative lack of fit of a specified model versus the baseline model. It is normed and varies from 0 to 1, with higher values representing better fit. The CFI is widely used because of its strengths, including its relative insensitivity to model complexity. A value of > .95 for CFI is associated with a good model (Hu & Bentler, 1999).

3.9.4 Hypothesis Testing

The ultimate goal of data analysis in the current study as earlier indicated was to test the hypotheses postulated in chapter one of this thesis, which described the relationships between CBBE constructs and brand market performance. The most appropriate analytical techniques that were deployed in testing the hypotheses were correlation analysis augmented by multiple regression analysis.

3.9.4.1 Correlation Analysis

Correlation is a measure of association used to determine the strength of the relationship between two variables.Measures of association are not inferential statistical tests, instead, they are descriptive statistical measures that demonstrate the strength or degree of relationship between two or more variables (Sheskin, 2007). Two variables, X and Y, are said to be associated when the value assumed by one variable affects the distribution of the other variable. X and Y are said to be independent if changes in one variable do not affect the other variable. Typically, the correlation coefficients reflect a monotone association between the variables. Correspondingly, positive correlation is said to occur when there is an increase in the values of Y as the values of X increase. Negative correlation occurs when the values of Y decrease as the values of X increase (or vise versa) (Sheskin, 2007; Lewis-Beck, 1995).

Pearson's, Spearman's and Kendall's correlation coefficients are the most commonly used measures of monotone association, with the latter two usually suggested for non-normally distributed data.There are numerous guidelines on when to use each of these correlation coefficients. One guideline is based on the type of data being analyzed. This guideline indicates that the Pearson product moment correlation coefficient (PPMC) is appropriate only for interval data while the Spearman's and Kendall's correlation coefficients could be used for either ordinal or interval data. Some guidelines also exist suggesting which correlation might be more appropriate for data that involves several types of variables. According to Khamis (2008) for data that has at least one ordinal variable, Kendall's tau is more appropriate. Other investigators suggested Spearman's correlation coefficients for the same scenarios. However, all of these correlation coefficients could be computed for interval data.

In this thesis, composite scores for each dimension of CBBE on the validated measures were obtained by cumulating individual respondents' responses and then computing average scores for each CBBE dimension for each brand. Composite, average brand market performance scores were also computed from the bank managers' responses. CBBE scores from customers of each bank were matched with corresponding brand market performance scores from the respective branch managers of the participating commercial banks and normality of the scores assessed. Once normality the data was confirmed, thenPPMCanalyses were carried out to determine the relationships between CBBE variables and brand market performance and consequently describing the direction, degree and strength of association between the CBBE measures and brand market performance. Results of PPMC tests evaluated on a 0.05 level of significance.

3.9.4.2 Regression Analysis

Multiple regression analysis was conducted to augment correlation analysis. According to Field (2009), regression analysis enables us to predict future outcomes based on the predictor variables. Regression analysis is a fairly flexible and robust solution to most research questions, especially those involving predictive and explanatory relationships. In regression analysis, very few or no constraints are assumed on the nature of variables and relationships, and appropriate techniques are available for handling data problems that may be encountered (Cohen, *et al.*, 2003; Alsop, R. (2007). This makes it a very powerful analytic tool. Additionally, regression analysis is generally robust vis-à-vis violation of assumptions, except for measurement and specification errors.

In this thesis, simultaneous,backward multiple regression analysis was conducted to measure the relationship of the predictivevariables to the dependent variable. Thebackward method of multiple regression calculates the contributions of each predictivevariable by looking at the significance value of the *t*-test for each predictor. If thepredictor meets the removal criterion (i.e. if it is not making a statistically significantcontribution to how well the model predicts the outcome variable) it is removed from themodel (Field, 2009). The remaining values are then examined to assess anddetermine their contribution to the outcome of the dependent variable. Data regarding thedependent variable (brand market performance) and the predictive variables (CBBE) were compiled and entered into thebackward regression model in the SPSS 23. Multicollinearity diagnostics were assessed along the regression output to confirm whether multicollinearity assumptions had not been violated by having any variables that were too closely related to one another by checking the variance inflation factor (VIF) values between the predictive variables (Field, 2009).

The predictive accuracy of the regression model was assessed based on the coefficient of determination (R^2). For assessing the R^2 values, Hair *et al.* (2006) provides some guidelines which are used to assess the R^2values in this study. According to Hair *et. al*. (2006), the minimum R^2values that can be considered statistically significant with a power of 0.80 for varying numbers of independent variables and sample sizes.

The general multiple regressions model used in this thesis was as shown below.

$$\mathbf{Y} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1\boldsymbol{X}_1 + \boldsymbol{\beta}_2\boldsymbol{X}_2 + \boldsymbol{\beta}_3\boldsymbol{X}_3 + \boldsymbol{\beta}_4\boldsymbol{X}_4 + \boldsymbol{\varepsilon}$$

Where:

Y = Independent variable (brand market performance)

$\boldsymbol{\beta}_0$ = Constant term

$\boldsymbol{\beta}_{1 \ldots}\ \boldsymbol{\beta}_4$= regression coefficients of the independent variables

$\mathbf{X_1} \ldots \mathbf{X_4}$= the independent variables (brand awareness, brand associations, perceived quality and customer brand loyalty respectively)

$\boldsymbol{\varepsilon}$ = error term, disturbance term, or noise.

3.9.5 Data Presentation

The results from the analysis of data in this thesis are presented in graphs, pie charts and APA table formats, interpreted and discussed in line with theory and prior empirical evidence. Whilst findings from the preliminary descriptive analysis of the respondents' responses are presented based on each variable measurement scale, results of hypothesis testing were organizedalong the four specific objective areas of study.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

The purpose of this study was to examine the role of customer-based brand equity on brand market performance in the services sector in Kenya. The previous chapter detailed the research methodology adopted to test the proposed conceptual model, and to test the study's hypotheses. The purpose of this chapter is to present the results of the data analysis and to test the hypotheses. Following this introduction, the second section (4.2) presents preparation of the data, including editing and coding prior to conducting analysis. This is followed by section 4.3 which discusses the procedures used for screening the data. The fourth section (4.4) discusses the final response rate, while the fifth section (4.5) describes sample characteristics. Following this, section six (4.6) reports the descriptive results of the initial CBBE measurement scales, the seventh section (4.7) discusses exploratory factor analysis used in the purification of the CBBE measurement scales, while the eighth section (4.8) discusses confirmatory factor analysis though Structural Equation Modelling (SEM) that is used to confirm the dimensionality of CBBE and assess the reliability and validity of the measurement final CBBE measurement scales. Section nine (4.9) presents the final results related to the testing of the hypotheses of the study. In the study, structural equation modeling was utilized to test the consumer-base brand equity model.

4.2 Data Editing and Coding

Following data collection from the customers of commercial banks in Kenya, the questionnaires were edited in order to ensure that there was no omission, incompleteness or inconsistency in the final data. The aim of data editing was to ensure that only respondents who had completed at least 75% of the questionnaire items were included in the final sample while excluding those with more than 25% unanswered questions as recommended by Sekaran (2010). In this process, any missing data was considered as missing values.

Coding was used to assign numbers to each response answer which allows the transfer of data from the questionnaire to an electronic data analysis programme. Data coding may be undertaken either before the questionnaire is answered (pre-coding), or after (post-coding) (DeVellis &Krishnan, 2011). In this study, coding of the respondents' responses with numerical values was done prior to data collection (pre-coding) as appears in the questionnaires in Appendices II and III. The coded data was then entered into the SPSS and data editing conducted in order to detect any errors in data entry. Out-of-range values in the data file were corrected by referring to the respective original questionnaires.

4.3 Data Screening

The first stage in data analysis involved screening the data in SPSS for missing data and outliers, and conducting normality tests. Data screening is useful in making sure that data have been correctly entered and that the distribution of variables, that are to be used in the analysis, are normal (Coakes, 2006). These preliminary analyses are discussed next.

4.3.1 Treatment of Missing Data

Missing data usually occurs when a respondent fails to answer one or more survey questions and as argued by Coakes (2006), it is uncommon to obtain data sets without some missing data in a study following the completion of the data collection phase. Two ways have been recommended by Tabachnick and Fidell (2001) to evaluate the degree to which there are missing data. The first is to evaluate the amount of missing data, and the second is to evaluate what data are missing (the pattern). However, Tabachnick and Fidell argue that assessing the pattern of missing data may be more important than the amount of missing data, even though the latter is still necessary. This is because checking the pattern of missing data has an advantage in determining whether or not missing data occur randomly or relate to specific items. That means the pattern of missing data should be randomly distributed among the questionnaires. If it is not, then the missing data will lead to biased estimates of results (Tabachnick & Fidell, 2001).

The screening of the data in SPSS indicated that there was no variable that had more than 5% of missing data. Since less than 5% of missing data is considered acceptable (Churchill, 1995), there was no requirement to assess the pattern of missing data. Nonetheless, to ensure that there was no systematic error (the missing data were randomly distributed) in the responses, the randomness of missing data was assessed (Hair, *et al.,* 2010). An analysis of the pattern of missing data using SPSS missing data analysis indicated only random occurrences. According to Tabachnick and Fidell (2001) that means there is no problem with the data and thus it can be analyzed further. As there was minimal missing data and the missing data were distributed randomly, it was decided to replace missing responses with the variable mean responses for each variable. This method was deemed to be most appropriate for the following two reasons. First, it is one of the most widely used methods, because it is based on valid responses that make the mean the best single replacement of missing data (Hair *et al.,* 2010). Second, because variables in this study were to be grouped in factors, listwise deletion of variables with missing data would result in substantial loss of the overall sample size (Tabachnick & Fidell, 2001).

It was important to ensure that replacing missing values with the variable mean did not significantly alter the means and distribution of variables (pre and post replacement). A paired sample t-test was conducted to examine if there were any mean differences between original and adjusted variables. A Wilcoxon signed-rank was also used to test all pairs of variables to show whethersignificant differences in distribution pre and post replacement existed. Therefore it can be confidently assumed that mean replacement did not alter the overall mean and distribution of variables.

4.3.2 Assessment of Normality of Data

Following the replacement of missing data with variable means (Coakes, 2006), the scale data was assessed to determine normality of distribution. Since factor analysis and structural equation modelling 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.*, 2010; Tabachnick & Fidell, 2001, Kline, 2005).

As the first step in diagnosing the distribution of the variables, Box and Whisker and steam 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 other observations" (Hair, *et al.*, 2010). These outliers might be very high or very low scores (extreme values), and could result in non-normality data and distorted statistics (Hair, *et al*., 2010; Tabachnick & Fidell, 2001). Given that extreme values represented less than 5% of the data, the method of scores changing was used as recommended by Tabachnick & Fidell (2001). Extreme values, in this case, were recoded (changed) to their closest values (up or down).

In order to check any actual deviation from normality, a number of methods can be used. One method is to use skewness and kurtosis. By using this method, 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*., 2010), even small deviations from normality can be significant but not substantive. Tabachnick & Fidell (2001) maintain that, in a large sample, a variable with statistically significant skewness and kurtosis often does not deviate enough from normality to make a sustantative difference in the analysis. Although this method is more applicable to small sample sizes, it was necessary to check the absolute values of skewness and kurtosis. That is a variable with an absolute value of kurtosis index greater than 10.0 may suggest a problem and values greater than 20.0 may indicate a more serious one (Kline, 2005; Keller K.L., (2003).

Table 4.1: Normality Measures of the Constructs

	Variable Constructs	Skewness		Kurtosis	
		Statistic	S.E	Statistic	S.E
Brand Awareness					
BAW_1	I have no difficulty in imagining this bank in my mind.	-.484	.131	-.977	.261
BAW_2	I can recognize this bank in comparison with other competing banks in the banking sector	-.567	.131	-.472	.261
BAW_3	This bank is the only bank I recall whenever I need to make a decision on financial/banking services	-.435	.131	-.145	.261
BAW_4	I can quickly recall the symbol or logo of this bank	-.431	.131	-.375	.261
BAW_5	I know how the colours of my bank look like.	-.822	.131	.588	.261
BAW_6	When I think of my favourite bank, this bank comes to mind quickly	-.696	.131	.202	.261
BAW_7	When someone talks about banking, my favourite bank always comes to mind.	-.658	.131	-.129	.261
BAW_8	Among its competitors, I know what my bank looks like	-.699	.131	-.173	.261
Brand Associations					
BAS_1	In its status and style, this bank matches my personality.	-.536	.131	.043	.261
BAS_2	This bank is well regarded by my friends.	-.702	.131	.069	.261
BAS_3	I am proud to be a customer of this bank	-.834	.131	.450	.261
BAS_4	I consider this bank and people who work for the bank are very trustworthy.	-.553	.131	-.046	.261
BAS_5	The services of this bank are well priced.	-.603	.131	-.057	.261
BAS_6	This bank and people who work for the bank have the expertise in offering the services	-.601	.131	.003	.261
BAS_7	This bank and people who work for the bank are socially responsible.	-.618	.131	.129	.261
BAS_8	This bank does not take advantage of customers.	-.724	.131	.356	.261
BAS_9	This bank is contributing to the development of the society	-.748	.131	.403	.261
BAS_10	This bank has a better image than its competitors	-.708	.131	.011	.261
Perceived Quality					
PQ_1	When a customer has a problem, the employees of this bank show sincere interest in solving it	-.572	.131	-.105	.261
PQ_2	This bank provides the service at the time they promise to do so	-.539	.131	.197	.261
PQ_3	Employees of this bank tell customers exactly when services will be performed	-.449	.131	-.031	.261
PQ_4	Employees of this bank give prompt service to customers.	-.961	.131	.777	.261

PQ_5	Employees of this bank are always willing to help customers.	-.836	.131	.475	.261
PQ_6	Employees of this bank are never too busy to respond to customers' requests	-.646	.131	.297	.261
PQ_7	The behaviour of employees of this bank instils confidence in me	-.635	.131	.112	.261
PQ_8	Employees of this bank give customers individual attention.	-.791	.131	.187	.261
PQ_9	Employees of this bank have the customers' best interest at heart.	-.858	.131	.360	.261
Brand Loyalty					
BLY_1	After using the services of this bank, I grow fond of it.	-.568	.131	-.993	.261
BLY_2	I will definitely use the services of this bank again.	-.492	.131	-.535	.261
BLY_3	I will definitely use the services of this bank although their price is higher than the other bank(s) that offer similar benefits.	-.504	.131	-.188	.261
BLY_4	I consider myself loyal to this bank.	-.509	.131	-.087	.261
BLY_5	I would recommend this bank to others.	-.606	.131	.045	.261
BLY_6	I am willing to buy items with this bank's logo or name on it.	-.481	.131	-.211	.261
BLY_7	I feel a deep connection with other customers of my bank	-.342	.131	-.402	.261
BLY_8	I am willing to engage in social activities with other customers of my bank	-.485	.131	-.271	.261
BLY_9	I really identify with other customers of my bank	-.502	.131	-.294	.261
BLY_10	I regularly seek news and information regarding my bank.	-.677	.131	.047	.261
BLY_11	I really like to talk about my bank with others	-.742	.131	-.064	.261
BLY_12	I am proud to have others know that I am a customer of this bank	-.666	.131	-.179	.261
BLY_13	I am always interested in learning more about my bank	-.730	.131	-.018	.261

Note: All items were measured using 5-point Likert scale. S.E = Standard Error

Therefore, it was recommended that absolute value of skewness and kurtosis should not be greater than 3 and 10. Using SPSS, an inspection of both skewness and kurtosis indicated that the absolute values were within the recommended levels (Table 4.1), suggesting univariate normality.

While the inspection of skewness and kurtosis values was important, it is recommended that visually assessing normal probability plotsis more appropriate for larger sample sizes (Hair, *et al.,* 2010). Looking for values clustered around the straight line, the assessment of these probability plots indicated that there was no severe deviation from normality. Since these variables did not deviate from normality, it was not necessary to make any adjustments such as transformation of the data (Tabachnick & Fidell, 2001).

4.4 Response Rate

As was discussed in Methodology Chapter (Sections 3.3 - 3.5), the aimof the data collection exercise in the study was to collect data from customers and managers of 42 commercial banks in Mombasa City, Kenya. On the other hand, data on brand market performance was gathered from the branch managers of participating branches of these commercial banks. A total of thirty five (35) commercial banks participated in the survey representing 83.3% of the commercial banks in Kenya. Having respondents from a cross-section of commercial banks was important to ensure that the sample was representative of the population of Kenya's commercial banks' customers. The survey was conducted was distributed on 400 customers in participant commercial banks . Of the 400, 385 questionnaires were returned representing 96% return rate. Out of the returned questionnaire, thirty eight (9.8%) of returns) were excluded due to incompleteness and from five non responsive bank branches. This resulted to an effective sample of 347 usable completed questionnaires which represented 86.75% of dispatched questionnaires. As for the branch managers' survey, forty branches participated in the survey, representing 93.02% of the commercial banks-two branch managers declined. However, responses of only 35 commercial banks from which customers had successfully participated in the survey were included in the analysis, thus representing 81.4% of commercial bank brands in Kenya. In effect, this 81.4 was the response rate.

4.5 Sample Profile

Seven main variables were used in order to describe the sample characteristics: sex; nationality; age; level of education; type of bank account operated by the respondent;

experience in years of operating the bank account and; average monthly income. The results shown in Table 4.2 indicate differences in the demographics of the respondents in relation to these variables.

4.5.1 Respondents Gender Composition

As can be seen, the final sample had a higher number of male (236) respondents than female (111), representing a ratio of 68% and 32%, respectively. This signifies that men are heavier consumers of bank products than female probably double as much.

4.5.2 Respondents' Nationality

An overwhelming 81% of the respondents were Kenyans while 19% reported to be non-Kenyans.This was not unexpected as the Kenyan citizens are expected to be heavier depositors than non-Kenyans. The non-citizens are play a fundamental role in this research as present diverse view of the research subject.

4.5.3 Respondents' Age Structure

The modal age group was 35-44 years to which 42.4% of the respondents belonged, followed by the 25-34 age group that covered 36.3% of the respondents. Slightly less than 2% of the respondents were above the age of 55 years.

4.5.4 Respondent's Level of Education

In terms of the respondents' level of education, Table 4.2 indicates that the highest percentage (35.2%) had secondary school level of education, 26.8% were diploma holders, 24.5% were undergraduate degree graduates, 12.7% primary school drop outs and less than 1% had post graduate education qualifications.

Table 4.2: Sample Profile

		Frequency	Percentage
Gender	Male	236	68.0
	Female	111	32.0
	Total	**347**	**100.0**
Nationality	Kenyan	282	81.3
	Non-Kenyan	65	18.7
	Total	**347**	**100.0**
Age	Below 25 Years	26	7.5
	25-34 Years	126	36.3
	35-44 Years	147	42.4
	45-54 Years	42	12.1
	Over 55 Years	6	1.7
	Total	**347**	**100.0**
Education Level	Primary	44	12.7
	Secondary	122	35.2
	Diploma	93	26.8
	Degree	85	24.5
	Post Graduate	3	.9
	Total	**347**	**100.0**
Account Type	Savings Account	163	47.0
	Current Account	165	47.6
	Corporate Account	19	5.5
	Total	**347**	**100.0**
Account Duration	Less than 1 year	49	14.1
	1-5 Years	212	61.1
	6-10 Years	68	19.6
	Over 10 Years	18	5.2

	Total	**347**	**100.0**
Monthly Income	Less than Ksh. 50,000	116	33.4
	Ksh. 50,000- 100,000	151	43.5
	Ksh. 100,001- 150,000	63	18.2
	Over Ksh. 150,000	17	4.9
	Total	**347**	**100.0**

4.5.5 Account Type

With regard to the type of account operated, almost as many respondents operated the savings account (47%) as those who operated the current account type (47.6%), while the lesser of 5.4% of the respondents were corporate account holders. Majority of the respondents (61.1%) had operated their respective accounts for 1-5 years while only 5.2% had reported having operated their respective accounts for over 10 years.

4.5.6 Respondents' Income Levels

In regard to the level of income, the highest percentage of the respondents (43.5%) earned 50,000 - 100,000 shillings, 33.4% earned less than 50,000 shillings, 18.2% earned from 100,001 to 150,000 shillings while 4.9% earned over 150,000 shillings.

4.6 Results of Descriptive Analysis of the Measurement Scales

In this part, the descriptive results of the measurement scale for each of the constructs of the research model are presented. As described in Chapter Three, the proposed model consists of four constructs of CBBE, namely brand awareness, brand associations, perceived quality and brand loyalty, and one construct of dependent variable, the brand market performance. Detailed descriptions of the items or questions, means and standard deviations are reported in table form in the following sub-sections. The descriptive discussions are mainly based on the mean scores of each of the constructs and items.

4.6.1 Brand Awareness Measurement Sub-Scale

The brarnd awareness scale of CBBE consists of 8 items reflecting the customers’ ability to recall and recognize the brand (commercial bank) as reflected by their ability to identify their bank under different conditions and to link the brand name, logo and symbol to certain associations in memory (Keller, 2013). The results of the descriptive analysis for brand awareness are shown in Table 4.3. Respondents were asked to provide answers for each item, measured on a five-point Likert scale ranging from '1' (‘strongly disagree) to '5' (‘strongly agree). Based on the mean scores for each item, the banks' customers demonstrated their agreement that they could quickly recall the symbol or logo of their respective banks (M=3.80; S.D = 0.915) as they knew how the colours of their banks look like (M=3.76: S.D =0.964). Additionally, they also agreed that whenever they think of their favourite bank, the particular bank comes to mind quickly (M=3.66; S.D = 1.003); when someone talks about banking, their favourite bank always comes to mind (M=3.65; S.D = 1.038) and; among their respective banks' competitors, they know what their bank looks like (M=3.65; S.D = 1.081).

Table 4.3: Means and Standard Deviations of the Brand Awareness Subscale Items

Item No.	Questionnaire item description	N	Mean	Std. Dev
BAW_1	I have no difficulty in imagining this bank in my mind.	347	3.32	1.340
BAW_2	I can recognize this bank in comparison with other competing banks in the banking sector	347	3.51	1.027
BAW_3	This bank is the only bank I recall whenever I need to make a decision on financial/banking services	347	3.57	.984
BAW_4	I can quickly recall the symbol or logo of this bank	347	3.80	.915
BAW_5	I know how the colours of my bank look like.	347	3.76	.964
BAW_6	When I think of my favourite bank, this bank comes to mind quickly	347	3.66	1.003
BAW_7	When someone talks about banking, my favourite bank always comes to mind.	347	3.65	1.038
BAW_8	Among its competitors, I know what my bank looks like	347	3.65	1.081

Further, the customers of commercial banks in Kenya fundamentally agreed that their respective bank was the only bank they recall whenever they need to make a decision on financial/banking services (M=3.57, S.D = .984) and that they can recognize the bank in comparison with other competing banks in the banking sector (M=3.51; S.D = 1.027).

4.6.2 Brand Association Measurement Sub-scale

Table 4.4 shows the results of the descriptive statistics of brand associations. A total of 10 items were used to measure brand associations on a five-point Likert scale on agreement levels, similar to brand awareness. This measurement scale contains an evaluation of bank customers' evaluation brand-related thoughts, feelings, perceptions, images, experiences, beliefs, attitudes that are linked in memory to their favourite bank (Kotler & Keller 2006), which represent the basis for decision to use the services of the bank and maintain their loyalty to the bank (Aaker, 2011).

Table 4.4: Means and Standard Deviations of the Brand Association Subscale Items

Item No.	Questionnaire item description	N	Mean	Std. Dev
BAS_1	In its status and style, this bank matches my personality.	347	3.73	.877
BAS_2	This bank is well regarded by my friends.	347	3.74	1.030
BAS_3	I am proud to be a customer of this bank	347	3.80	.972
BAS_4	I consider this bank and people who work for the bank are very trustworthy.	347	3.72	.990
BAS_5	The services of this bank are well priced.	347	3.61	1.023
BAS_6	This bank and people who work for the bank have the expertise in offering the services	347	3.59	.985
BAS_7	This bank and people who work for the bank are socially responsible.	347	3.56	1.011
BAS_8	This bank does not take advantage of customers.	347	3.68	.955
BAS_9	This bank is contributing to the development of the society	347	3.74	.965
BAS_10	This bank has a better image than its competitors	347	3.61	1.057

Based on the mean scores, the respondents in this study expressed agreement that they are proud to be customers of their respective banks (M=3.80; S.D = 0.972) as the bank contributed to the development of the society (M=3.74, S.D = 0.965); was well regarded by their friends (M=3.74, S.D = 1.030); that in status and style, the bank matches their personality (M=3.73, S.D = 0.877) and that they consider the bank and people who work for the bank to be very trustworthy (M=3.72, S.D = 0.990). Furthermore, the respondents somewhat agreed that their respective banks did not take advantage of customers (M=3.68, S.D = 0.955), had better image than their competitors (M=3.61, S.D = 1.057), and that the services of the bank were well priced (M=3.61, S.D = 1.023). Finally, the respondents agreed that their preferred banks and people who work for the bank have the expertise in offering the services (M=3.59, S.D = 0.985) and that the bank and people who work for the bank were socially responsible (M=3.56, S.D = 1.011). Generally, these items means ranged between 3.56 and 3.80, which can be generally interpreted that the bank customers who participated in this study exhibited relatively strong brand associations in relation to their preferred commercial banks.

4.6.3 Perceived Quality Measurement Sub-scale

The perceived quality measurement scale comprised 9 items that evaluated the respondents' judgment about the banks' services' overall excellence or superiority that is different from objective quality (Zeithaml 2008). The banks' customers were asked to indicate their level of agreement, ranging from 1 to 5, on issues related to service quality.

As presented in Table 4.5, the bank customers who participated in this study tended to agree that, eemployees of their respective banks give prompt service to customers (M = 3.76, S.D = 0.990) probably give that the employees are never too busy to respond to customers' requests (M= 3.69, S.D = 0.931). They also seemed satisfied with timeliness of the banks services which is provided by the bank at the time they promise to do so (M=3.65, S.D = 0.911), employees assurance of the customers exactly when services will be performed (M=3.65, S.D = 0.905) and the behaviour of employees of the banks which they perceived as instilling confidence in the customers (M=3.65, S.D = 0.987). Furthermore, the respondents perceived the employees of their preferred banks to have the customers' best interest at heart (M=3.64, S.D = 1.067), always willing to help customers (M=3.64, S.D = 0.982) and gave customers individual attention (M=3.63, S.D = 1.033). On the other hand, the respondents seemed satisfied with the fact that when a customer of their respective banks has a problem, the employees of their bank show sincere interest in solving it (M=3.62, S.D = 0.940).

Table 4.5: Means and Standard Deviations of the Perceived Quality Subscale Items

Item No.	Questionnaire item description	N	Mean	Std. Dev
PQ_1	When a customer has a problem, the employees of this bank show sincere interest in solving it	347	3.62	.940
PQ_2	This bank provides the service at the time they promise to do so	347	3.65	.911
PQ_3	Employees of this bank tell customers exactly when services will be performed	347	3.65	.905
PQ_4	Employees of this bank give prompt service to customers.	347	3.76	.990
PQ_5	Employees of this bank are always willing to help customers.	347	3.64	.982
PQ_6	Employees of this bank are never too busy to respond to customers' requests	347	3.69	.931
PQ_7	The behaviour of employees of this bank instils confidence in me	347	3.65	.987
PQ_8	Employees of this bank give customers individual attention.	347	3.63	1.033
PQ_9	Employees of this bank have the customers' best interest at heart.	347	3.64	1.067

4.6.4 Brand Loyalty Measurement Sub-Scale

The descriptive statistics regarding respondents' brand loyalty are reported in Table 4.6. A total of 13 items were used to measure brand loyalty on a five-point Likert scale examining agreement with various dimension of brand loyalty related to the customers' attachment to their favourite banks (Aaker, 1991).

Table 4.6: Means and Standard Deviations of the Loyalty Subscale Items

Item No.	Questionnaire item description	N	Mean	Std. Dev
BLY_1	After using the services of this bank, I grow fond of it.	347	3.37	1.423
BLY_2	I will definitely use the services of this bank again.	347	3.55	1.053
BLY_3	I will definitely use the services of this bank although their price is higher than the other bank(s) that offer similar benefits.	347	3.58	.995
BLY_4	I consider myself loyal to this bank.	347	3.53	.989
BLY_5	I would recommend this bank to others.	347	3.53	.995
BLY_6	I am willing to buy items with this bank's logo or name on it.	347	3.56	1.028
BLY_7	I feel a deep connection with other customers of my bank	347	3.52	1.015
BLY_8	I am willing to engage in social activities with other customers of my bank	347	3.61	1.029
BLY_9	I really identify with other customers of my bank	347	3.58	1.068
BLY_10	I regularly seek news and information regarding my bank.	347	3.67	1.036
BLY_11	I really like to talk about my bank with others	347	3.80	1.088
BLY_12	I am proud to have others know that I am a customer of this bank	347	3.82	1.033
BLY_13	I am always interested in learning more about my bank	347	3.76	1.081

Higher mean scores indicate greater brand loyalty. The mean scores of each item generally indicate that respondents tended to be loyal to their favourite banks. Specifically, items with fairly high means were "I am proud to have others know that I am a customer of this bank" (M=3.82, S.D = 1.033) and "I really like to talk about my bank with others" (M=3.80, S.D = 1.088). However, respondents seemed to be uncertain on whether they became fond of their respective banks' services after using the services (M=3.37, S.D =1.423) but expressed moderate agreement that they would definitely use the services of the bank again (M=3.55, S.D = 1.053), consider themselves loyal to the bank (M = 3.53, S.D = 0.989) and that they would recommend the bank to others (M=3.53, S.D =0.995).

4.6.5 Brand Market Performance

The brand market performance questionnaire comprised 8 items measuring the performance of the brand along financial (2), customer (4) and employee dimensions (2).The bank managers were asked to indicate their level of agreement, ranging from 1 to 5, that on average their respective banks had performed significantly better that their main competitors in indicated performance areas. The measurement items were measured on a five-point Likert scale ranging from '1' (‘strongly disagree) to '5' (‘strongly agree). Table 4.7 shows the results of the descriptive statistics of brand market performance.

Table 4.7: Means and Standard Deviations of the Brand market performance Measurement Scale Items

Item No.	Questionnaire item description	N	Mean	Std. Dev
BMP_1	Customer loyalty	35	3.71	.178
BMP_2	Relative customer satisfaction	35	4.37	.646
BMP_3	Market share (based on revenue)	35	4.31	.676
BMP_4	Net profit	35	4.20	.677
BMP_5	Company reputation	35	3.97	.403
BMP_6	Customer awareness of our company and services	35	4.17	.568
BMP_7	Employee satisfaction	35	3.77	.690
BMP_8	Employee retention	35	3.74	.817

The bank managers largely agreed that on average, when compared to their main competitor, their respective banks had performed better with respect to relative customer satisfaction (M=4.37, SD=0.646); Market share based on revenue (M=4.31, SD=0.676); Net profit (M=4.20, SD=0.677) and customer awareness of company and services (M=4.17, SD=0.568). The managers further agreed that their banks had performed relatively better in company reputation (M=3.97, SD=0.403); employee satisfaction (M=3.77, SD=0.690); employee retention (M=3.74, SD=0.817) and; customer loyalty (M=3.71, SD=0.178). Generally, these statistics show that the banks seemed to perform better in financial and customer based performance measures compared to employee-based measures.

4.7 Reliability Analysis

High correlations between alternative measures or large Cronbach alphas are usually signs that the measures are reliable (Twycross & Shields, 2004). There is no standard cut-off point for the alpha coefficient, but the generally agreed upon lower limit for Cronbach alpha is .70, although it may decrease to .60 (Hair, *et al*., 2010) or even .50 (Nunnally, 1978) in exploratory research.

Table 4.8 presents the initial reliability examination of CBBE measurement scales. The Cronbach alpha coefficients were calculated in SPSS 23 along with item-to-total correlations (ITC). The Cronbach alphas of each construct are shown to be above 0.70, showing a high degree of internal consistency. The brand loyalty scale shows the highest alpha value at 0.89, while perceived quality indicates the lowest alpha at 0.82. In total, 8 items were deleted from the measurement scales of brand awareness (1), brand associations (2), perceived quality (4) and brand loyalty (1). The item deletion process was performed in order to increase the alpha values. Items were deleted based on ITCs of less than .50 (Hair, *et al.*, 2010).

Table 4.8: Reliability Test

Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Brand Awareness			
BAW_1	.520	.817	0.827
BAW_2	.623	.798	
BAW_3	.524	.811	
BAW_4*	.428	.822	
BAW_5	.561	.806	
BAW_6	.613	.799	
BAW_7	.624	.797	
BAW_8	.548	.808	
Brand Associations			
BAS_1	.501	.841	0.851
BAS_2*	.456	.846	
BAS_3	.604	.832	
BAS_4	.585	.834	
BAS_5	.557	.837	
BAS_6*	.484	.843	
BAS_7	.567	.836	
BAS_8	.602	.833	

BAS_9	.631	.830	
BAS_10	.542	.838	
Perceived Quality			
PQ_1*	.467	.807	0.819
PQ_2	.505	.802	
PQ_3*	.464	.807	
PQ_4*	.473	.806	
PQ_5	.561	.795	
PQ_6	.591	.792	
PQ_7	.614	.789	
PQ_8	.534	.799	
PQ_9*	.463	.808	
Brand Loyalty			
BLY_1	.650	.874	0.886
BLY_2	.693	.871	
BLY_3	.612	.876	
BLY_4	.646	.874	
BLY_5	.581	.877	
BLY_6	.561	.878	
BLY_7*	.445	.884	
BLY_8	.519	.880	
BLY_9	.535	.879	
BLY_10	.528	.880	
BLY_11	.564	.878	
BLY_12	.558	.878	
BLY_13	.584	.877	

Table 4.8: Reliability Test(Continued)

BMPC_1	.612	.730	0.771
BMPC_2	.423	.755	
BMPC_3	.453	.750	
BMPC_4	.509	.740	
BMPF_1	.367	.763	
BMPF_2	.590	.728	
BMPE_1	.382	.764	
BMPE_2	.508	.743	

Note: *Item was deleted

The items were deleted one at a time, starting with the one with the lowest ITC, and the reliability for the new alpha value was re-tested, as shown in Table 4.8. However, more caution regarding the deleted items has been taken in further analysis. In order to make sure that constructs with low Cronbach alpha do not cause a problem, a more stringent test of reliability is taken. This involves assessing the amount of variance captured by construct measures in relation to the amount of variance due to measurement error (Fornell & Larcker, 1981).

4.8 Validation of CBBE Measurement Scales

As described in Chapter 3 (see Section 3.8.2), validity refers to the extent to which a set of measurement items or indicators measures what they are supposed to measure (Saunders&Thornhill, 2013). In order to claim the validity of an instrument, it is necessary to have both convergent and discriminant validity. Convergent validity refers to the state when items measure their intended construct and no other construct, whereas discriminant validity is confirmed when the construct as a whole differs from the other constructs. The convergent validity of the measurement scales of the current study is derived from the Exploratory Factor Analysis (EFA) results, which will be explained in the following sub-section.

4.8.1 Exploratory Factor Analysis

The main purpose of EFA test was to confirm whether items loaded exactly to the corresponding constructs as identified by previous research. Other than convergent validity assessment, EFA also assesses the dimensionality, measurement and psychometric properties of scale items used in this study. Therefore, following the reliability test result, a total of 32 items on the CBBE scale were factor analyzed using Principal Component Analysis utilizing Promax Rotation with Kaiser Normalization.

As suggested by Nunnally & Bernstein (1997) and Chin, *et al.* (2010), a combination of the Kaiser-Guttman Rule (Eigenvalues) and scree-plot were utilized to determine the most appropriate component solution. Hair, *et al.* (2010) recommend that researchers should ensure that the data matrix has sufficient correlations to justify the application of EFA. Consequently, in the current study, the R-Matrix (Appendices V(a) - V(c)) was examined to identify items that correlated highly with each other (multicollinearity). As Kurtosis and Skewness statistics had indicated that the data used in this survey had a normal distribution, the Pearson's Product Moment Correlation coefficient analysis was used to conduct the correlation analysis.

Inspection of the correlation matrix revealed that all the 32 items of the CBBE measurement scale correlated with each other, at least r =.3 with all the other items thus making it possible to proceed with EFA (DWalsh & Beatty, 2007). However, additional tests using the Kaiser-Mayer Olkin Measure of Sampling Adequacy (MSA) and Bartlett's Test of Sphericity (BTS) were also conducted to assess and further confirm the suitability of the survey data for factor analysis. Table 4.9 shows the results of these tests.

The MSA is a statistical test that indicates the proportion of variance in the variables which is common variance, while the BTS is a statistical test for the presence of correlations among the variables. The MSA index ranges from 0 to 1, reaching 1 when each variable is perfectly predicted without error by the other variables. The measure can be interpreted with the following guidelines: (.90) or above is marvellous, (.80) is meritorious, (.70) is middling, (.60) is mediocre, (.50) is miserable and below (.40) is unacceptable (Hair, *et al.,* 2010).

Table 4.9: KMO and Bartlett's Test for CBBE Measurement Model

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.905
Bartlett's Test of Sphericity	Approx. Chi-Square	6464.841
	Df	561
	Sig.	.000

The result of the MSA test of this study is .905, which indicates a marvellous level of prediction. The BTS significance level indicates the result of the test. Small values (<.05) indicates that the data do not produce an identity matrix and, hence, are suitable for factor analysis. Conversely, larger values indicate that the data produce an identity matrix and, hence, are not suitable for factor analysis. In this study, the significance level of BTS is .000, which means that the data are appropriate for factor analysis. The results of the MSA and BTS tests show that the data meet the fundamental requirements for factor analysis.

A additional check through examination of the anti-image correlation matrix was done to assess individual items' sampling adequacy. Individual MSA for all the items as appearing in the diagonals of the anti-image correlation matrix (Appendix VI) exceeded 0.5 as required for EFA to proceed (Field, 2005). Inspection of the off diagonals revealed that majority of item correlations were below 0.1 which further confirmed the suitability of the data for exploratory factor analysis. Consequently, all the 32 out of initial 40 CBBE measurement scale items were included in exploratory factor analysis.

To test for instrument validity, principal component factor analysis utilizing the promax rotation technique with Kaiser Normalization was performed in SPSS 23. As stated by

Hair, *et al.* (2010), the choice of an orthogonal or oblique rotation should be made on the basis of the particular needs of a given research problem. If the purpose is to reduce the number of original variables, regardless of how meaningful the resulting factors may be, orthogonal rotation methods will be appropriate. However, if the purpose of the factor analysis is to obtain several theoretically meaningful factors or constructs, an oblique solution is the appropriate approach. In this study, Principal Axis Factoring with Direct Oblimin rotation was used to factor analyze the data since the dimensions were expected to be correlated. This conclusion is reached because, realistically, very few factors are uncorrelated, as in orthogonal rotation (Hair, *et al*., 2010).

Several criteria were used to arrive at a decision about the number of factors and items under each factor: examination of the scree plot, item-to-total correlations, total variance explained by each factor, Eigen values, factor loadings etc. The scree plot indicated 8 or 9 factors. The analysis was run three times, each time eliminating items that were cross-loading or not loading at or above the generally accepted cutoff of .40 on any factor. The first EFA result indicated that the pool of items captured eight (8) distinct factors. Upon inspecting the factor solution and the item loadings a total of 3 items were deleted (i.e. BAW_3, BLY_1 and BLY_2) because of cross loadings and no longer considered for subsequent analyses. Then, the remaining 29 items were again subjected to the second EFA from which an 8 factor solution was obtained. In the second 8-factor solution, one item (BLY_3) indicated low factor loading (below .40) while another item (BLY_10) cross loaded on two factors (2 and 5) above .40. These two factors were deleted and excluded from subsequent analysis.

The table in Appendix Viii(a) shows the factors extractable from the analysis along with their eigenvalues,the percent of variance attributable to each factor, and the cumulative variance of the factor and the previous factors. Notice that the first factor accounts for 26.984 % of the variance, the second 26.580 % and the third 21.879%.

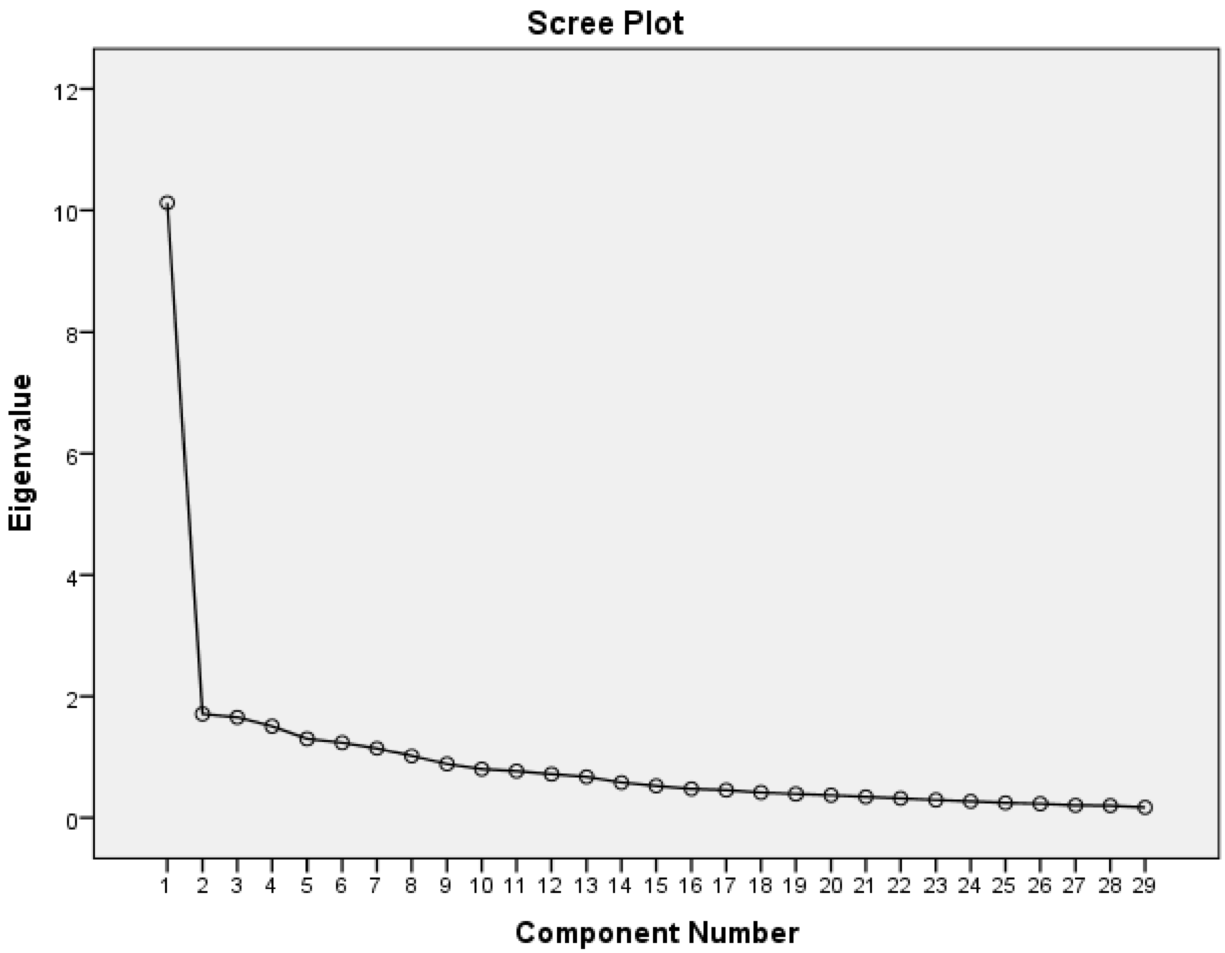

Figure 4.1: Scree Plot for Exploratory Factor Analysis

The final EFA conducted with 27 items produced a 7-factor solution in which one item (PQ_2) of the perceived quality scale loaded lower than .40 and was deleted. The scree plot in figure 4.1 represents the 27 items retained. However since PQ_4 did not meet the threshold of .40, it was consequently deleted.Further analysis of the remaining 26 items produced a 7-factors solution in which none of the items showed low loading (below .40) or cross loading (above .40). Table 4.11 shows the results of the EFA.

Table 4.10: Exploratory Factor Analysis, Factor Loadings and Cronbach's Alpha of CBBE

	Structure Matrix								
		Component							
		Perceived quality	Active engagement	Brand recall	Brand recognition	Sense of community	Behavioural loyalty	Brand associations	Cronbach's Alpha
PQ_7	Employees of this bank give customers individual attention.	.850							.790
PQ_8	The behaviour of employees of this bank instils confidence in me	.819							
PQ_6	Employees of this bank are never too busy to respond to customers' requests	.761							
PQ_5	Employees of this bank are always willing to help customers.	.580							
BLY_12	I am proud to have others know that I am a customer of this bank		-.859						.825
BLY_13	I am always interested in learning more about my bank		-.848						
BLY_11	I really like to talk about my bank with others		-.829						
BAS_10	I regularly seek news and information regarding my bank.		-.521						
BAW_6	When I think of my favourite bank, this bank comes to mind quickly			.854					.827

BAW_7	When someone talks about banking, my favourite bank always comes to mind.	.847				
BAW_5	I know how the colours of my bank look like.	.796				
BAW_8	Among its competitors, I know what my bank looks like	.701				
BAW_1	I have no difficulty in imagining this bank in my mind.		.862			.782
BAW_2	I can recognize this bank in comparison with other competing banks in the banking sector		.833			
BAS_8	This bank does not take advantage of customers.		.601			
BAS_7	This bank and people who work for the bank are socially responsible.		.582			
BLY_9	I am willing to engage in social activities with other customers of my bank			.530		.755
BLY_8	I really identify with other customers of my bank			.529		
BLY_5	I would recommend this bank to others.				-.869	.820
BLY_6	I am willing to buy items with this bank's logo or name on it.				-.839	
BLY_4	I consider myself loyal to this bank.				-.813	

BAS_3	I am proud to be a customer of this bank	.832	.788
BAS_4	I consider this bank and people who work for the bank are very trustworthy.	.781	
BAS_5	The services of this bank are well priced.	.649	
BAS_1	In its status and style, this bank matches my personality.	.622	
BAS_9	This bank is contributing to the development of the society	.591	

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

The EFA results showed that all items of the perceived quality measurement scale loaded on Factor 1, hence retention of the factor label as "Perceived Quality" with a composite Chronbach's alpha of $\alpha = 0.79$. Three items of the brand loyalty scale were truncated due to low factor loadings. The remaining 9 items of the brand loyalty measurement scale loaded on three factors, 2, 5 and 6. These factors were labeled "Active engagement" (Chronbach's alpha = 0.825), "Sense of community" (Cronbach's alpha = 0.755) and "Behavioural loyalty" (Cronbach's alpha = 0.820) respectively, based on the conceptual meanings of the items that hung together to load on these factors. The third factor had 4 items of the original brand awareness measurement scale loading onto it and was labeled "Brand recall" (Chronbach's alpha = 0.827). Two items from the original brand awareness and two from brand associations measurement scales loaded onto the fourth factor, which was named "Brand recognition" (Cronbach's alpha = 0.782). The last factor (7) had 5 items of the original brand associations measurement scale loading onto it and was thus retained as " Brand associations" (Cronbach's alpha = 0.788). The 7-factor solution accounted for 67.12% of the total variance.

4.8.2 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a procedure of the structural equation modelling (SEM) family tree (Kline, 2005) and plays an important role in the modelling process. CFA seeks to determine whether the number of factors and the loadings of observed variables on them conform to what is expected on the basis of pre-established theory. CFA focuses on the extent to which the observed variables (also known as indicators) are linked to their underlying latent factors (also known as constructs). Hence, the strengths of the regression structure paths from the factor to the observed variables (i.e. the factor loadings) are of major interest. Along these lines, CFA allows identification and clustering of observed variables in a pre-specified, theory-driven hypothesized model to evaluate the extent to which a particular collected data set confirms what is theoretically believed to be its underlying constructs (Motameni, R., Shahrokhi M. (1998). In brief, CFA models could (i) assess the role of measurement error in the model (ii) validate a multi-factorial model, (iii) determine group effects on the factors and other capability of typical factor analysis.

Based on the foregoing arguments, the purpose of conducting CFA in this thesis was to confirm the factor structure of CBBE constructs' measurement scales obtained after EFA as discussed in the preceding section. Since CFA is performed on the premise that the observed variables are not perfect indicators of the underlying constructs, the measurement model was estimated first to allow for removal of problematic indicators and obtain valid CBBE measures as recommended by Anderson and Gerbing (1982), before deploying the validated measurement scales in testing the hypothesized relationships between CBBE and brand market performance in the second stage called the structural model. However, in this thesis, the structural model was not estimated due to the reasons provided under the sub-section on SEM process (3.9.3.2.2) in the preceding research methodology chapter. Thus, only the measurement model was processed through SEM procedures.

Firstly, CFA was conducted separately on each CBBE construct's measure which is incorporated in the specific measurement model to assess unidimensionality in terms of the parameter estimates, the statistical significance of the parameter estimates and overall fit . In this stage, based on the results, problematic or poorly fitting items were identified and it was decided whether to retain or delete them. Secondly, CFA was performed on the overall CBBE measurement model, which was comprised of all the individual, purified CBBE construct measures derived from the first step. Then, all significant results from the measurement model were reported and discussed.

Structural equation modeling (SEM) is used to test the hypotheses arising from the theoretical model. This thesis' theoretical model was discussed in chapter two and operationalized using questionnaire items that captured all theoretical concepts of CBBE measurement. Thus, in estimating the CBBE measurement model in this thesis, the analysis was conducted by specifying the causal relationships between the observed variables (items) and the underlying theoretical constructs (Factors) identified from the EFA. For this purpose, confirmatory factor analysis using AMOS 23.0 was performed.

4.8.3 CBBE Measurement Model Estimation

The measurement model is the portion of the model that specifies how the observed variables depend on the unobserved, composite, or latent variables (Arbuckle, 2010). In this sense, the measurement model aims to specify which items correspond to each latent variable. Accordingly, the measurement model in this thesis specifies the pattern by which each measure is loaded onto a particular variable (composite or latent variables) (Byrne, 2010). Each one of the constructs under consideration including brand awareness, brand associations, perceived quality and brand loyalty, was separately analysed in separate measurement models. If the results are not consistent with an *a priori* specified measurement model, then the measurement model should be respecified, and reanalyzed (Hair, *et al.*, 2010; Kline, 2005; Holmes-Smith, 2006). Thus, the measurement model in this stage has been evaluated in two steps. The first step assesses the unidimensionality for each factor, and the second step aims to assess the reliability and validity of each construct. These two steps are discussed below.

4.8.3.1 Assessing the Unidimensionality of Each CBBE Construct

In this section, the specification of the measurement model for each underlying CBBE construct is discussed using path diagrams. The use of multi-item scales to measure each factor in the measurement model is described, followed with a description of the procedures that were conducted to modify the measurement model.

The constructs in the proposed conceptual model – brand awareness, brand associations, perceived quality and brand loyalty were each assessed for unidimensionality. Each one of these constructs was examined in a separate measurement model. In each measurement model, multiple items have been used to measure each factor (Anderson & Gerbing, 1982; Hair, *et al.*, 2010; Kline, 2005) to allow the most unambiguous assignment of meaning to the estimated constructs (Anderson & Gerbing, 1988). In this context, Kline (2005) maintains that, if a standard CFA model with a single factor has at least three indicators, the model is identified. If a standard model with two or more factors has at least two indicators per factor, the model is identified.

Bentler and Chou (1987) have suggested that a measurement model should contain at most 20 variables measuring no more than five to six constructs (three to four indicators measure each construct). This is because the interpretation of results and their statistical significance become difficult when the number of concepts becomes too large. 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 (Arbuckle, 2010; Kline, 2005; Holmes-Smith, *et al.*, 2006). In this way, parsimonious unidimensional constructs are obtained (Anderson & Gerbing, 1988).

In removing any redundant items from the measurement model, two main considerations as recommended by Kline (2005) were made. First, indicators specified to measure a proposed underlying factor should have relatively high-standardized loadings on that factor. This is typically .50 or greater (Hair, *et al.*, 2010). Second, the estimated correlations between the factors should not be greater than .85 (Kline, 2005). That is, if the estimated correlation between brand awareness and brand associations, for example, in the overall measurement model is >.85, then the items may not be measuring two different factors. In other words, there is overlap between these two factors and thus they are empirically not distinguishable. These two considerations were made in conjunction with the overall goodness-of-fit indices to suggest acceptance of unidimensionality for each model of the factors and the overall measurement model for CBBE.

Detailed evaluation of model fit was obtained by an inspection of the normalized residual and modification indices (Hair *et al.*, 2010; Holmes-Smith, *et al.*, 2006). In this case, the normal residual (also called standardized residual) refers to the difference between observed correlation/covariance and the estimated correlation/covariance matrix, and modification indices refer to the calculation of each non-estimated relationship in the specified model. Residuals more than ±2.58 are indicative of a specification error in the model, whereas a modification index value greater than 3.84 shows that the chi-square would be significantly reduced when the corresponding parameter is estimated (Hair, *et al.*, 2010; Holmes-Smith, *et al.*, 2006). However, the evaluation of the measurement model should not only be based on statistical principals, but also on a theoretical justification (Anderson and Gerbing, 1988; Hair, *et al.*, 2010; Kline, 2005).

The goal of the current study was to find a model that was both substantively meaningful andstatistically well fitting the data and theory. This is consistent also with Holmes-Smith, *et al.* (2006), who assert that the researcher should guard against making changes solely based on data-driven grounds in an attempt to get a model that fits the data better.

A final consideration in confirming each measurement model is the choice of parameter estimates to be used. These include Maximum Liklelhood Estimators (MLE), Instrumental Variables (IV), Unweighted Least Squares (ULS), and Generalized Least Squares (GLS). With the sample in this thesis of 347 respondents, MLE was used as the parameter estimation method for the following reasons. First, according to Joreskog and Sorbom (1982), MLEunder the assumption of a multivariate normal distribution has been considered as most appropriate, especially with larger samples. Second, Anderson and Gerbing (1988) emphasize that MLE has the desirable asymptotic, or large-sample, properties of being unbiased, consistent, and efficient. Finally**,** because MLE is suited to theory testing and development, and desirable properties for statistical testing, it has been adopted by a number of researchers in marketing such as Crosby, *et al.* (1990).

In the following sections, the results of testing the unidimensionality of each construct (measurement models) - brand awareness, brand associations, perceived quality and brand loyalty in AMOS 23.0 are presented.

4.8.3.1.1 Brand Awareness

Firstly, the measurement model for Brand Awareness (BAW), which comprised of 8 original indicators, was tested. However, as discussed in section 4.7 (see Table 4.8) concerning reliability, item 'BAW_4'was deleted, as it did not contribute to the scale reliability. Thus, this item was not included in the CFA, as it may not have been a reliable measure of BAW. During EFA, one more item of BAW, that is, 'BAW_3'was deleted as it did not load adequately on any of the 7 factors that emerged after the final EFA. However, during the EFA, two distinct factors of BAW emerged - 'Brand recall' and 'Brand recognition', each with four observed indicators (see Table 4.14). Two indicators from the original brand associations (BAS_7 and BAS_8) measurement scale loaded on factor 4 together with two indicators from the brand awareness measurement scale, which was labeled "Brand recognition" as explained in 4.8.1. Given that the two constructs of BAW (brand recall and brand recognition) were considered as exogenous variables, the statistical SEM model specifies that they are intercorrelated as shown in the path diagram in Figure 4.2.

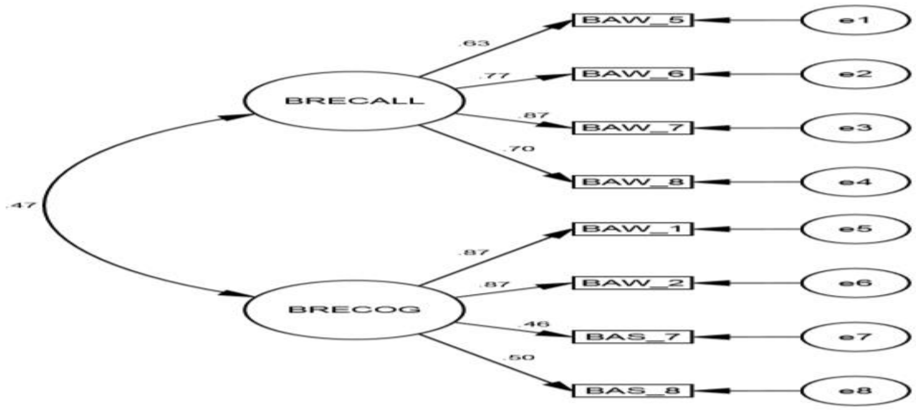

Figure 4.2: Measurement Model for Brand Awareness

Table 4.11: CFA Results for Brand Awareness Measurement Model

		Standardized Loadings	***t*-Values**
BAW_5	I know how the colours of my bank look like.	.629	N/A
BAW_6	When I think of my favourite bank, this bank comes to mind quickly	.771	11.324
BAW_7	When someone talks about banking, my favourite bank always comes to mind.	.874	11.975
BAW_8	Among its competitors, I know what my bank looks like	.695	10.527
BAW_1	I have no difficulty in imagining this bank in my mind.	.868	N/A
BAW_2	I can recognize this bank in comparison with other competing banks in the banking sector	.870	15.523

BAS_7	This bank and people who work for the bank are socially responsible.	.457	8.356
BAS_8	This bank does not take advantage of customers	.498	9.184
Goodness of Fit Statistics		**Initial**	**Re-specified**
Chi-square (χ^2) o f estimate model		251.745 (df=19; p=.000)	13.393 (df = 4, P = .010)
χ^2/df		13.250	3.348
Goodness-of-fit (GFI)		.850	.986
Adjusted Goodness-of-fit Index (AGFI)		.716	.946
Normed Fit Index (NFI)		.804	.983
Comparative Fit Index (CFI)		.815	.988
Tuker-Lewis Index (TLI)		.727	.970
Root Mean Square Error of Approximation (RMSEA)		.188	.082

The chi-square was significant (χ^2=251.745; df=19; p=.000; N=347). The GFI was .850, AGFI = .716, RMSEA = .188, NFI = .804, CFI = .815, TLI = .727, and χ^2/df= 13.250).

Table 4.12 shows the results of the CFA for brand awareness measures. The CFA results for each measure are described with regard to fit indices, standardised loading and *t*-value (known as critical ratio in the AMOS output). The CFA results demonstrate that all the *t*-values associated with the individual items were greater than ±1.96, hence achieving the threshold level of convergent validity (Anderson & Gerbing, 1988). In addition, standardized parameter estimates were all significant (P<0.001). However, as displayed in the 'Initial' column of Table 4.12, all the fit statistics of the CFA indicated that the initial measurement model needed to be respecified

Despite the fit indices indicating that the model was not a good fit, the CFA results showed that the intercorrelation (covariance between brand recall and brand recognition was lower than .85 (i.e .47), demonstrating strong discriminant validity (Kline, 2005). Given that most of the fit indices (χ^2, GFI, AGFI, RMSEA, NFI, CFI and TLI) were not within acceptable limits, additional analysis was employed to detect non-fitting items and further detailed assessment (respecification) conducted.

Inspection of the CFA results revealed that two indicators of brand recognition, ' BAS_7' and ' BAS_8', had relatively lower *t*-values and loaded lowly (less than .5) on their latent variable/factor (brand recognition). Examination of the results indicated that BAS_7 and BAS_8 had relatively lower values of the squared multiple correlations (R^2) compared to all the other indicators (Appendix VII, Table 1). In addition, although the item BAW_5 had a relatively high standardized loading of .63 on its latent variable (brand recall), it had a very low R^2 value compared to the other items. The squared multiple correlations, which examine the extent to which the measurement model adequately represents the observed indicators, should be high, ranging from .00 to 1.00. These values are also used to estimate the indicator reliability, which explains the extent to which an item adequately measures its associated underlying construct (Bollen, 2011). Further examination of the modification indices(Appendix VII, Table 2) indicated that the indicators BAS_7, BAS_8 and BAW_5 had unacceptably high values (73.96, 78.42 and 27.96 respectively).

After deleting the three indicators from the model, CFA with the two endogenous variables and 5 indicators was re-estimated to test whether or not the collected data fit the modified model. The CFA results of the "re-specified" model revealed that goodness of fit indices had improved, as displayed in the 're-specified' column of Table 4.15 (χ^2= 13.393, df = 4, P = .010, *N* = 347). The GFI=.986, AGFI=.946, RMSEA=.082, NFI=.983, CFI=.988 and TLI=.970 and χ^2/df = 3.348. Even though the chi-square is still significant, these values suggest that this model fits adequately to the data. As discussed before, it is commonly accepted that the chi-square estimate would potentially reject valid models in large sample size (Bagozzi & Yi, 1988). Given that the model fits the data adequately and the correlations between the underlying factors are less than .85 (i.e. .39 as indicated by the value on the double-headed arrow in Figure 4.3), no further adjustments were required.

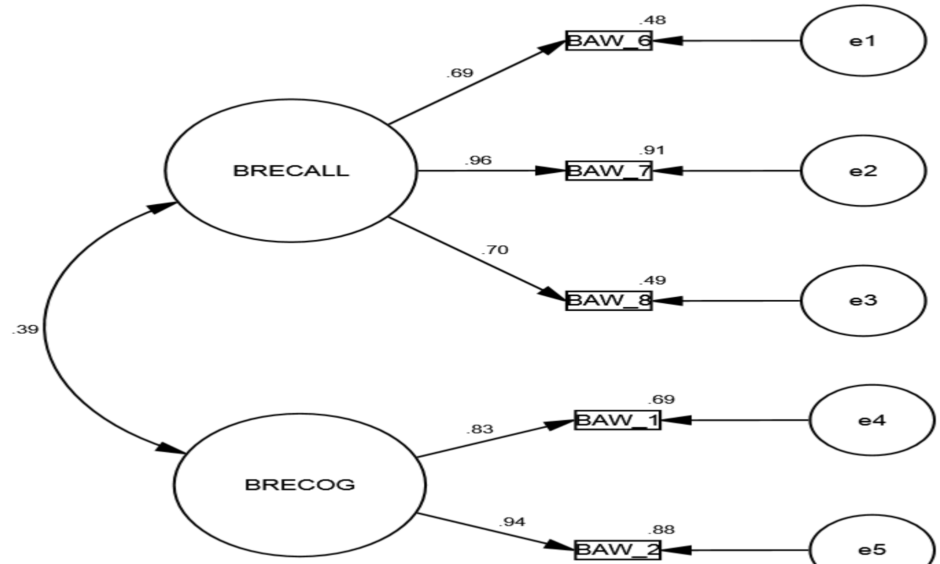

Figure 4.3: Re-Specified Measurement Model for Brand Awareness

Although deleting the three items from the model considerably reduced the number of items measuring brand recognition to a bare minimum of two and those measuring brand recall to three having deleted a total of 3 items from the originally conceptualized scale of brand awareness, their removal did not significantly change the content of the construct as it was conceptualized. This is because the remaining items for brand recall and brand recognition had the highest initial loadings, and thus the meaning of the factors had been preserved by these items. In addition, deleting the two items (BAS_7 and BAS_8) from the factor - brand recognition, which originally belonged to brand associations measurement scale restored the theoretical structure of brand awareness measurement scale. Therefore, the remaining five items capture a more consistent meaning of the brand awareness, conceptualized as brand recall and brand recognition.

In addition to the fit indices, the standardized loadings for the re-specified model demonstrated comparatively high loadings, ranging from .69 to .96 as shown in the path diagram, which indicates the importance of the observed variables as indicators of the BAW construct consequently providing unidimensional scales for brand recall and brand recognition on the BAW measurement scale. The squared multiple correlation (R^2), which is used to examine the extent to which the measurement model adequately represents the observed indicators (Kline, 2005), indicated that the values ranged between .48 and .91. These coefficient scores also serve as indicators of reliability (Bollen, 2011).

4.8.3.1.2 Brand Associations

As the remaining CFA models follow the same procedures as in the BAW model, the fit indices for the rest of the measurement models are described only briefly. As already discussed under section 4.8.1, the brand associations (BAS) measurement model was retained as one factor with only five indicators remaining after EFA, from the original measurement scale with10 indicators. This was after deleting BAS_2 and BAS_6 during reliability analysis because of their low contribution to the reliability of the initial brand associations measurement scale, and deletion of BAS_10 due to low loading.

The CFA results demonstrate that all the *t*-values associated with the individual items were greater than ±1.96, hence achieving the threshold level of convergent validity (Anderson and Gerbing, 1988). As displayed in Figure 4.4, the standardized parameter estimate show that all indicators were statistically significant (P<0.001) and loaded on the BAS factor, but BAS_1 had a relatively lower loading of <.50 (i.e. .48). All the fit statistics implied an adequate fit to the data, with the notable exception of AGFI, TLI (<.90) RMSEA values, which were above the acceptable cut point (.05-.08) and did not achieve adequate levels. CFA results also showed that the chi-square was significant (χ^2= 46.269, df = 5, P = .000, *N* = 347). The GFI=.946, AGFI=.838, RMSEA=.154, NFI=.910, CFI=.918 and TLI=.836 and χ^2/df = 9.254.

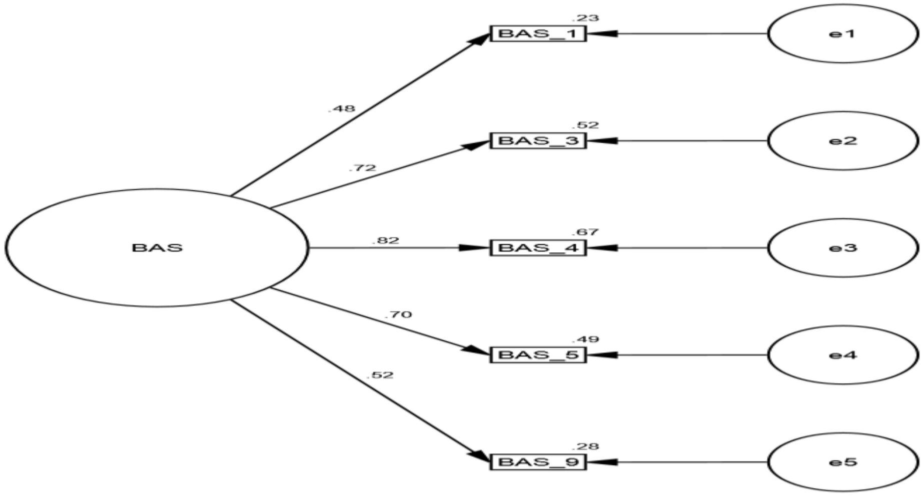

Figure 4.4: Measurement Model for Brand Associations

Based on the examination of the *t*-values, standard error, R^2(Appendix VII Table 1), standardized factor loadings and modification indices(Appendix VII Table 2), two items with lower values of estimated parameters and variances (BAS_1and BAS_9) were dropped. Then, CFA was re-estimated to examine whether the model with three observed indicators fit the data. The second estimation of the 're-specified' model in Table 4.12 represented a better fit compared to the 'initial' model, and indicated a well fitting model. The model revealed a saturated model: the χ^2 value of .00 (df=0, p=1.0) and other goodness-of fit indices also supported the fact that the hypothesized model fits the collected sample data fairly well (GFI=1.000, RMR=.000, NFI=1.000 and CFI=1.000). All of the t-values associated with each of the loadings exceeded the critical values for the significant level of .001 (1.96). Furthermore, the standardized loadings ranged from .64 to .93, and the R^2 were values between .409 and .857, which indicated high reliability of the model.

Table 4.12: CFA Results for Brand Associations Measurement Model

	Standardized Loadings	***t*-Values**

BAS_1	In its status and style, this bank matches my personality.	.479	7.990
BAS_3	I am proud to be a customer of this bank	.724	N/A
BAS_4	I consider this bank and people who work for the bank are very trustworthy.	.819	12.436
BAS_5	The services of this bank are well priced.	.698	11.355
BAS_9	This bank is contributing to the development of the society	.525	8.718

Goodness of Fit Statistics	**Initial**	**Re-specified**
Chi-square (χ^2) o f estimate model	46.269 (df=5; p=.000)	0 (df = 0, P = 1.0)
χ^2/df	9.254	N/A
Goodness-of-fit (GFI)	.946	1.000
Adjusted Goodness-of-fit Index (AGFI)	.838	N/A
Normed Fit Index (NFI)	.910	1.000
Comparative Fit Index (CFI)	.918	1.000
Tuker-Lewis Index (TLI)	.836	1.000
Root Mean Square Error of Approximation (RMSEA)	.154	.000

Hence, the modified BAS model with three indicators is regarded as a 'just identified' or 'saturated' model. This means that the model-fit was perfect, with the number of equations being equal to the number of estimated coefficients, thus the model has zero degrees-of-freedom and its probability level cannot be computed (Hair, *et al.*, 2010). The perfect fit indices indicated that the measurement model produced a satisfactory result of a well-fitting model. The re-specified model of BAS is displayed in Figure 4.5.

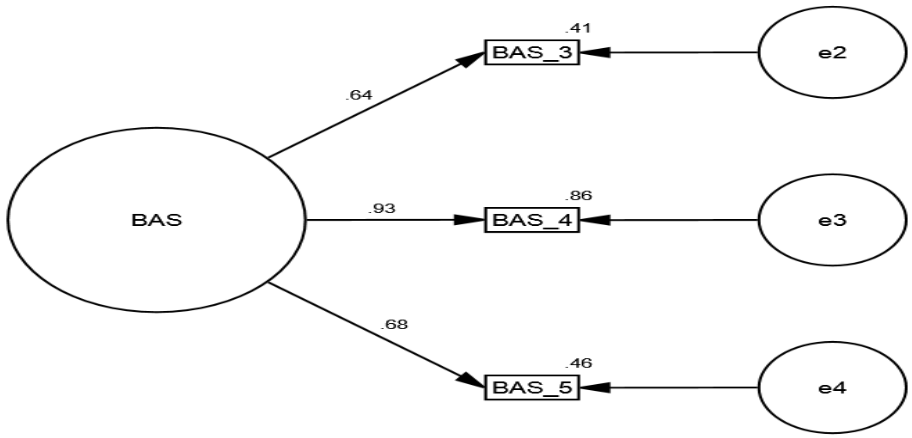

Figure 4.5: Re-specified Measurement Model for Brand Associations

4.8.3.1.3 Perceived Quality

The initial perceived quality (PQ) measurement scale comprised of 9 observed indicators. However, after initial reliability analysis (see section 4.7, Table 4.8), items PQ_1, PQ_3, PQ_4 and PQ_9were deleted, as they did not contribute to a high scale reliability for the overall perceived quality construct. During EFA, another indicator PQ_2 was deleted because it loaded lower than .40 on the PQ factor. Thus, perceived quality factor model was estimated in CFA using four indicators. The path diagram is displayed in Figure 4.6.

The initial CFA result of the perceived quality model was not acceptable for a well-fitting model. The χ^2 value of 67.995with two degrees of freedom was statistically significant ($p<.0001$), suggesting that the hypothesized model was not entirely adequate. Other indices that provide evidence of an unacceptable model included an AGFI score of .533 and TLI of .578 (both were lower than the cut-off point of .90) and an RMSEA score of .309 (above the acceptable level of .08), although GFI reached the threshold of >.9 while CFI and NFI were tolerable but inadequate. Accordingly, it can be argued that the proposed hypothesized model of perceived quality represented an unlikely condition in relation to the specified model and was rejected and re-specified in terms of estimating the parameters.

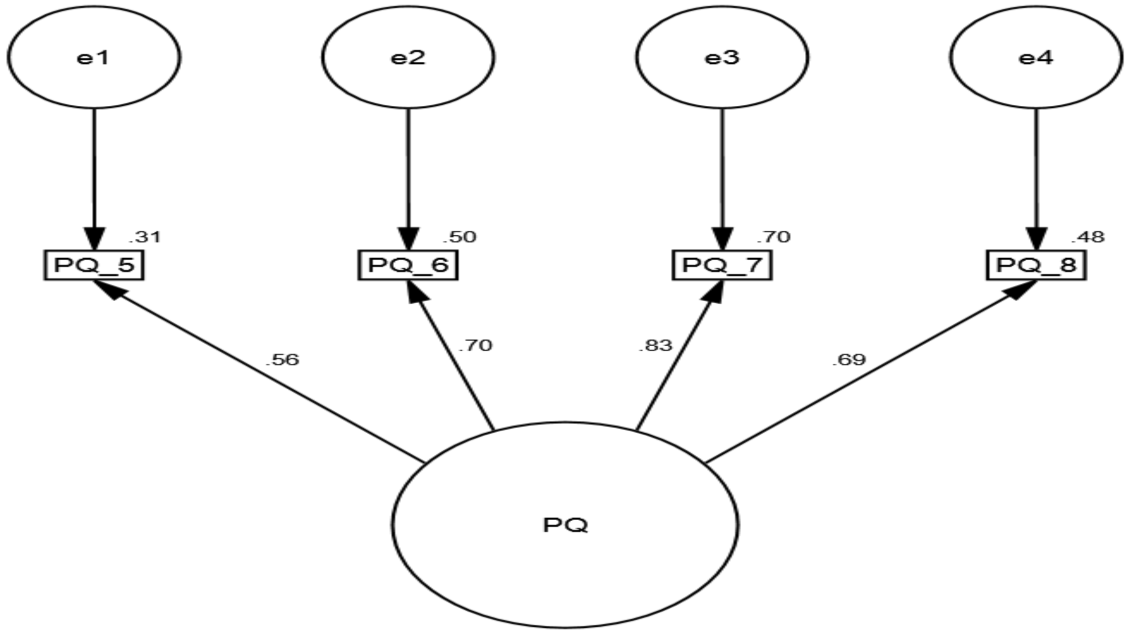

Figure 4.6: Measurement Model for Perceived Quality

Consequently, item PQ_5 was dropped, due to low squared multiple correlations (.314) as shown in Appendix VII - Table 1, and low completely standardized loadings (.56). Then the CFA was run with the re-specified model with three indicators. The second estimation of the 're-specified' model in Table 4.13 represented a better fit compared to the 'initial' model, and indicated a well fitting model. The model revealed a saturated model: the χ^2 value of .00 (df=0, p=1.0) and other goodness-of fit indices also supported the fact that the hypothesized model fits the collected sample data fairly well (GFI=1.00, RMR=.000, IFI=1.00, and CFI=1.00). All of the t-values associated with each of the loadings exceeded the critical values for the significant level of .001 (1.96), while the standardized loadings ranged from .62 to .90 (Figure 4.7), and the R^2were values between .34 and .81, indicating high reliability of the model.

Table 4.13: CFA Results for Perceived Quality Measurement Model

		Standardized Loadings	*t*-Values
PQ_5	Employees of this bank are always willing to help customers.	.560	9.121
PQ_6	Employees of this bank are never too busy to respond to customers' requests	.704	N/A
PQ_7	Employees of this bank give customers individual attention.	.834	11.874
PQ_8	The behaviour of employees of this bank instils confidence in me	.695	11.021

Goodness of Fit Statistics	**Initial**	**Re-specified**
Chi-square (χ^2) o f estimate model	67.995 (df=2; p=.000)	0 (df = 0, P = 1.0)
χ^2/df	33.997	N/A
Goodness-of-fit (GFI)	.907	1.000
Adjusted Goodness-of-fit Index (AGFI)	.533	N/A
Normed Fit Index (NFI)	.857	1.000
Comparative Fit Index (CFI)	.859	1.000
Tuker-Lewis Index (TLI)	.578	1.000
Root Mean Square Error of Approximation (RMSEA)	.309	.000

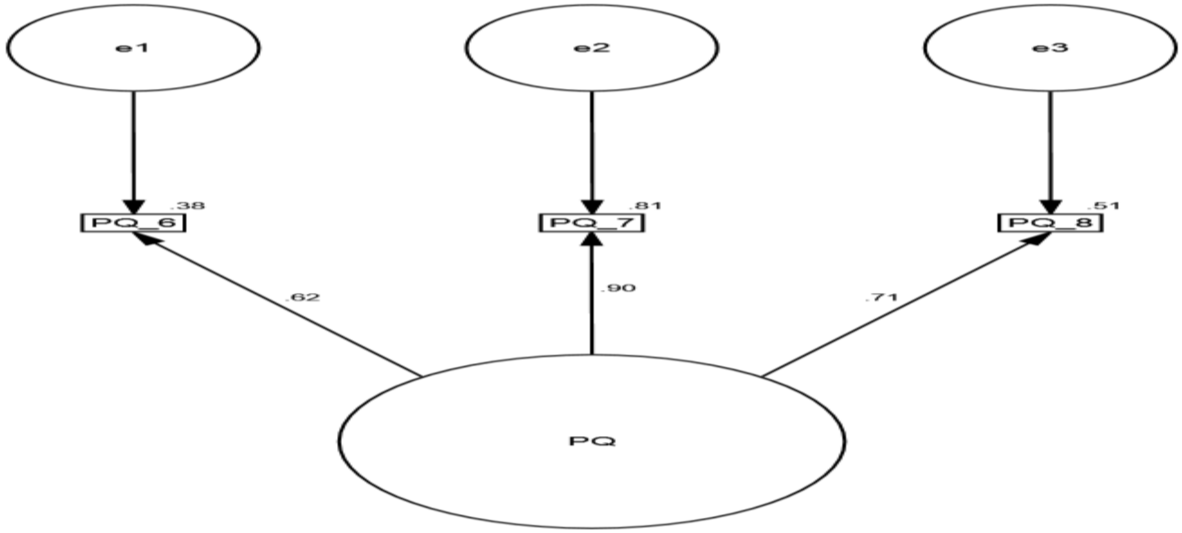

Figure 4.7: Re-specified Measurement Model for Perceived Quality

4.8.3.1.4 Brand Loyalty

The three-factor brand loyalty (BLY) measurement scale, which consists of 9 indicators from the initial 13-item measurement scale after reliability and EFA was used to build this model. The three-factor measurement BLY model of was comprised of active engagement (ACTENG), sense of community (SENCOM) and behavioural loyalty (BEHLY). After EFA, active engagement comprised 4 indicators, sense of community 2 indicators and behavioural loyalty 3 observed indicators. In the measurement model (Figure 4.8), the intercorrelation between the composite variables of active engagement, sense of community and behavioural loyalty is a measure of the higher order brand loyalty latent construct.

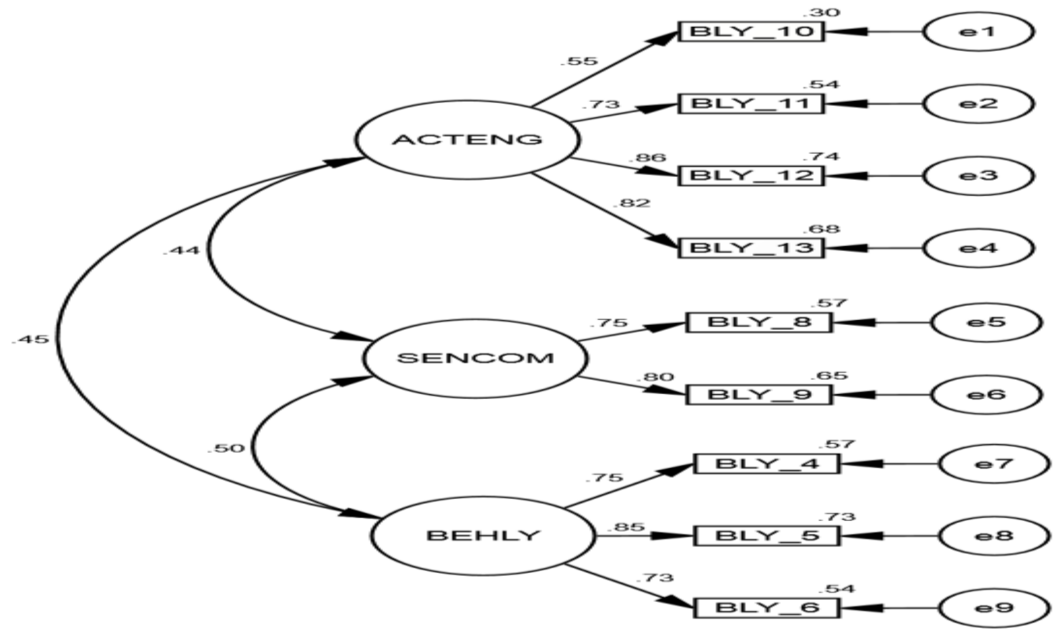

Figure 4.8: Measurement Model for Brand Loyalty

According to CFA results presented in Table 4.14, the initial standardized estimations for each of the indicators of the brand loyalty constructs were high and statistically significant at p<.05 (greater than ±1.96), thereby demonstrating convergent validity (Gerbing and Anderson, 1988). However, the fit of model indices indicated that this measurement model did not fit to the data. The chi-square was (χ^2 = 186.175, df = 24, P = .000, *N* = 347). The GFI was .894, AGFI = .802, CFI= .882, TLI= .823, NFI=. 868, RMSEA = .140, χ^2/df = 7.757. However, the CFA results showed that the intercorrelations (covariances active engagement, sense of community and behavioural loyalty lower than .85, demonstrating strong discriminant validity (Kline, 2005).

Table 4.14: CFA Results for Brand Loyalty Measurement Model

		Standardized Loadings	*t*-Values
BLY_10	I regularly seek news and information regarding my bank.	.546	10.095
BLY_11	I really like to talk about my bank with others	.732	14.249
BLY_12	I am proud to have others know that I am a customer of this bank	.859	16.546
BLY_13	I am always interested in learning more about my bank	.825	N/A
BLY_8	I really identify with other customers of my bank	.755	N/A
BLY_9	I am willing to engage in social activities with other customers of my bank	.804	8.479
BLY_4	I consider myself loyal to this bank.	.753	N/A
BLY_5	I would recommend this bank to others.	.854	13.662
BLY_6	I am willing to buy items with this bank's logo or name on it.	.735	12.707

Goodness of Fit Statistics	Initial	Re-specified
Chi-square (χ^2) o f estimate model	186.175 (df=24; p=.000)	84.861 (df=17; p=.000
χ^2/df	7.757	4.99
Goodness-of-fit (GFI)	.894	.946
Adjusted Goodness-of-fit Index (AGFI)	.802	.885
Normed Fit Index (NFI)	.868	.930
Comparative Fit Index (CFI)	.882	.942

Tuker-Lewis Index (TLI)	.823	.905
Root Mean Square Error of Approximation (RMSEA)	.140	.071

Given that most of the fit indices for the initial brand loyalty measurement model were not within acceptable levels, a more detailed assessment was performed in an attempt to modify the model and make it more parsimonious. Examination of the *t*-values indicated that two indicators, BLY_10 and BLY_9 had relatively lower *t*-values compared to the other indicators. However, BLY_9 had a very strong loading (.804) on its latent variable (sense of community) while the standardized loading for BLY_10 on active engagement was the lowest in the model at .546. Further inspection showed that BLY_10 had the lowest value of the squared multiple correlation (R^2) (.298) compared to all the other indicators (Appendix IX Table 1). Based on the examination of the modification indices (MI) which represent misspecified parameters (Appendix IX Table 2), it was identified that the highest Ml values were between BLY_10 and BLY_9 (67.998) and BLY_10 and its latent construct (SENCOM) (52.933). All these details pointed to BLY_10 as being problematic to the model, and so was deleted from the model and the re-specified model with 8 indicators was estimated in CFA as shown in Figure 4.9.

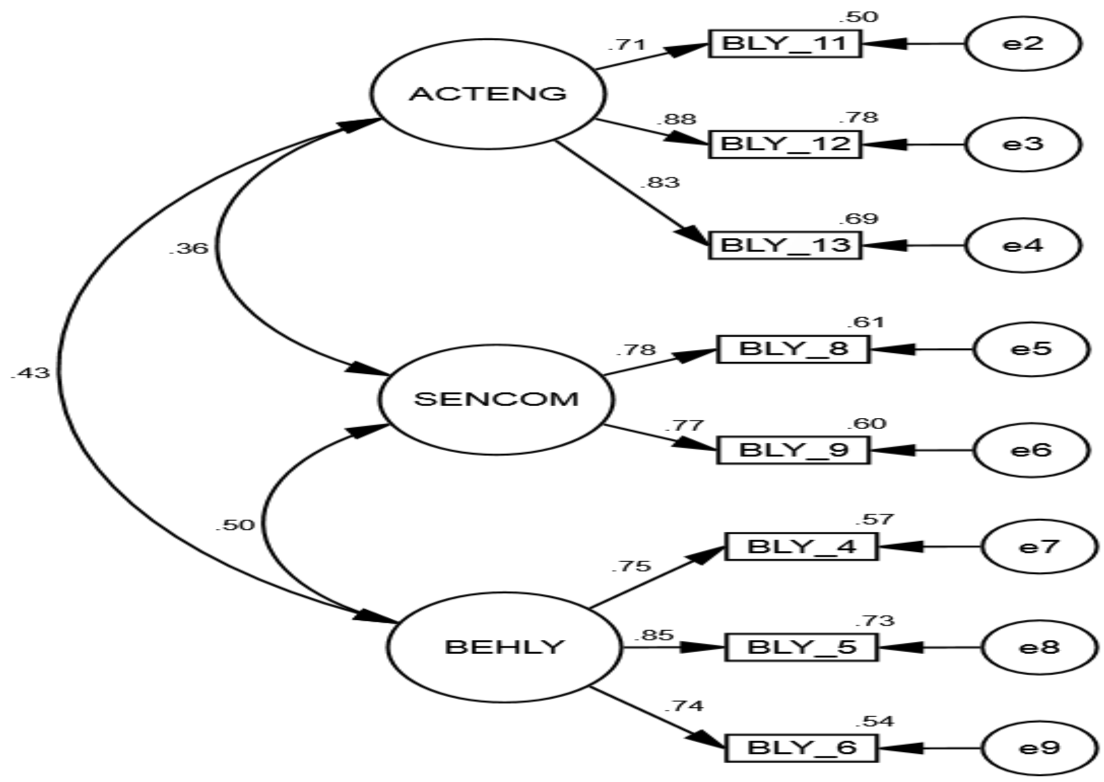

Figure 4.9: Re-specified Measurement Model for Brand Loyalty

The final model with the 1 indicator deleted improved the fit of the model, even though the chi-square remained significant. The chi-square was (χ^2= 84.861, df = 17, P = .000, *N* = 347). All of GFI = .946, AGFI = .885, NFI = .930, CFI = .942, TLI =. 905, RMSEA = .071, and χ^2/df = 4.99 are improved. As earlier discussed, the measurement model could be judged as providing an acceptable fit even though the chi-square value is statistically significant (Anderson & Gerbing, 1988), especially with a large sample (Bagozzi & Yi, 1988). Given that the model fits the data adequately and the correlations between the underlying factors are less than .85 (see the values on the double-headed arrows in Figure 4.9), no further adjustments were required.

4.8.3.2 Reliability and Validity of Overall CBBE Measurement Model

Prior to estimating the overall CBBE measurement model, each construct's measurement model was examined separately to investigate whether the collected data fit the specified observed indicators of the constructs successfully as presented in sub-sections 4.8.3.1.1 to 4.8.3.1.4. Based on the results of the goodness-of-fit indices, modification indices, and estimated coefficient scores such as *t*-values and multiple correlations (R^2), the measurement models for each construct were modified and re-specified where necessary. Consequently, the final measurement model for each CBBE construct with the observed indicators was determined on the basis of the statistical and theoretical robustness of the constructs. Thus, each final construct measurement model represented the best-fitting model to the data in terms of parsimony and substantive meaningfulness.

The overall CBBE measurement model was estimated by including established factors, brand recall (BRECALL), brand recognition (BRECOG), brand associations (BAS), perceived quality (PQ), active engagement (ACTENG), sense of community (SENCOM) and behavioural loyalty (BEHLY). Given these seven constructs, three observed indicators loaded onto BRECALL; two observed indicators loaded onto BRECOG; three observed indicators loaded onto BAS; three observed indicators loaded onto PQ; three observed indicators loaded onto ACTENG; two observed indicators loaded onto SENCOM and three observed indicators loaded onto BEHLY. These measures were evaluated as a full CFA model as displayed in Figure 4.10.

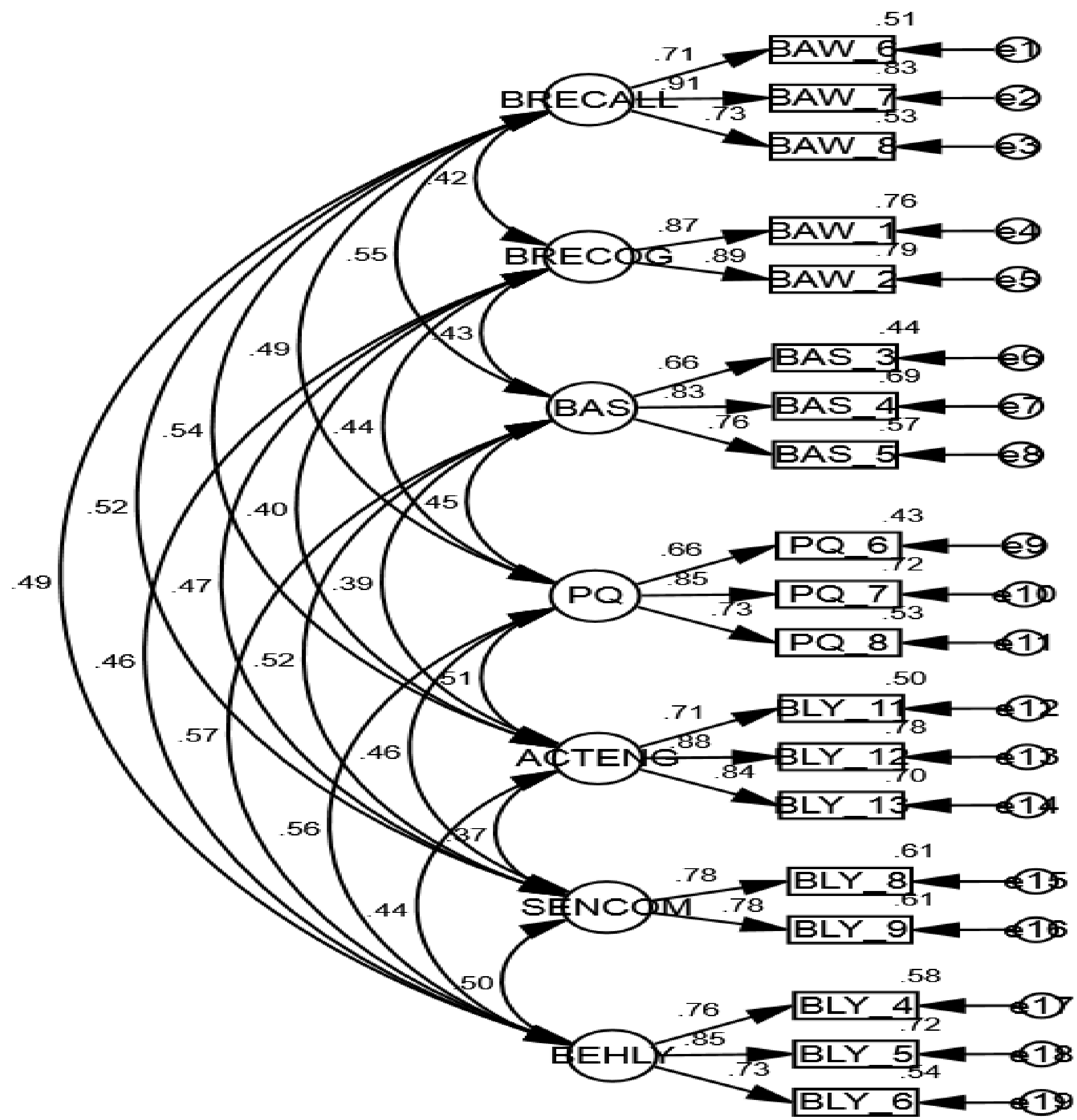

Figure 4.10: Full CBBE Measurement Model

As the path diagram presented in Figure 4.9 illustrates, latent variables are indicated as ellipses whilst observed indicators are presented in rectangles. The path coefficients for the estimated regression weight of observed indicators onto unobserved latent variables are presented above each arrow. These values represent the amount of change in Y, given a standard deviation unit change in X. Besides, the measurement error associated with each observed indicator is presented as small circles (e1 - e19). The values above the ellipses are the estimations of variance, while the figures exhibited on the two-headed arrows between the latent constructs indicate the correlations or covariance between the constructs.

The results of the overall model assessment summarized in Table 4.15 show that all indicators fell on their posited underlying factors and were statistically significant. All *t*-values were significantly greater than ±2.58 at $p<.01$ level, which clearly demonstrates evidence of convergent validity (Anderson & Gerbing, 1988). Further, the standardized factor loadings were evaluated and resulted in a range between .659 and .912. These standardized loadings were used to determine the relative importance of the observed variables as indicators of the constructs.

The R^2values for all indicators ranged from .434 to .832 (Appendix X), which implied that the reliability of two individual items in this measurement model (BAS_3 and PQ_6) whose R^2 values were .439 and .434 respectively, failed to satisfy the acceptable threshold level of convergent validity (i.e. .50) as recommended by Bollen (2011) and Steenkamp & Van Trijp, (2010). Despite this result, the two items loaded highly on their respective factors and, all the constructs reached composite reliability values greater than .70, which exceeds the suggested value of .60 recommended by Bagozzi and Yi (1988). In addition, reliability evaluation based on AVE satisfied the recommended value of .50 (Fornell & Larcker, 1981). This indicates that the variance captured by the construct is greater, as compared to the variance accounted for due to measurement error (Hair, *et al.*,2010).

Table 4.15: CFA Results for Overall CBBE Measurement Model

Constructs and Items		Standardized Loadings	t-Values	Composite Reliability	R^2	AVE	Cronbach Alpha
Brand Awareness				**.90**		**.65**	**.787**
1. Brand recall				**.82**		**.60**	**.813**
BAW_6*	When I think of my favourite bank, this bank comes to mind quickly	.715	N/A		.511		
BAW_7	When someone talks about banking, my favourite bank always comes to mind.	.912	14.315		.832		
BAW_8	Among its competitors, I know what my bank looks like	.725	12.583		.526		
2. Brand recognition				**.83**		**.70**	**.857**
BAW_1*	I have no difficulty in imagining this bank in my mind.	.871	N/A		.759		
BAW_2	I can recognize this bank in comparison with other competing banks in the banking sector	.890	13.706		.793		
Brand associations				**.80**		**.57**	**.787**
BAS_3*	I am proud to be a customer of this bank	.663	N/A		.439		
BAS_4	I consider this bank and people who work for the bank are very trustworthy.	.830	11.767		.689		
BAS_5	The services of this bank are well priced.	.757	11.332		.573		
Perceived Quality				**.80**		**.57**	**.782**

PQ_6*	Employees of this bank are never too busy to respond to customers' requests	.659	N/A		.434		
PQ_7	Employees of this bank give customers individual attention.	.849	11.735		.720		
PQ_8	The behaviour of employees of this bank instils confidence in me	.731	11.054		.534		
Brand Loyalty				**.93**		**.61**	**.826**
1. Active engagement				**.83**		**.62**	**.843**
BLY_11*	I really like to talk about my bank with others	.705	N/A		.497		
BLY_12	I am proud to have others know that I am a customer of this bank	.881	14.199		.775		
BLY_13	I am always interested in learning more about my bank	.836	13.906		.699		
2. Sense of community				**.74**		**.58**	**.755**
BLY_8*	I really identify with other customers of my bank	.779	N/A		.606		
BLY_9	I am willing to engage in social activities with other customers of my bank	.779	10.278		.607		
3. Behavioural loyalty				**.82**		**.61**	**.820**
BLY_4*	I consider myself loyal to this bank.	.760	N/A		.578		
BLY_5	I would recommend this bank to others.	.848	14.371		.719		
BLY_6	I am willing to buy items with this bank's logo or name on it.	.733	12.948		.537		

**Fixed Parameter*

Notably, each of the observed variables satisfied Nunnally's (1978) threshold level of acceptable reliability, with Cronbach alpha values greater than .70. The hypothesized model as a whole was examined by using three types of fit indices: absolute fit indices, incremental fit indices, and parsimonious fit indices. The results of the goodness-of-fit statistics are reported in Table 4.16. Examination of goodness-of-fit statistics for the overall CBBE measurement model showed that the χ^2 of the overall model was 281.452 with 131 degrees of freedom (p=.000), while the GFI was .92, which was slightly above the suggested level of .90. The RMR was .05 and the RMSEA was .058. These indices were within recommended levels based on Hu & Bentler (1995), who suggest that a value of less than .05 indicates a good fit, and values greater than .08 indicate reasonable errors of approximation in the population.

Table 4.16: Goodness-of-Fit Statistics for Overall CBBE Measurement Model

Goodness-of-Fit Measures	**Statistics**
Absolute Fit Measures	
Chi-square (χ^2) of estimate model	281.452 (df=131; p=.000)
Root mean square residual (RMR)	.050
Root mean square error of approximation (RMSEA)	.058
Goodness-of-fit Index (GFI)	.924
Incremental Fit Measures	
Adjusted Goodness-of-fit Index (AGFI)	.890
Normed Fit Index (NFI)	.914

Tucker Lewis Index (TLI)	.937
Parsimonious Fit Measures	
Parsimony Goodness-of-fit Index (PGFI)	.637
Parsimony Normed Fit Index (PNFI)	.700
Comparative Fit Index (CFI)	.952
Incremental Fit Index (IFI)	.952

The result of the overall CBBE measurement model indicate that all of the fit indices were within recommended limits, producing a model that fitted the data acceptably well.With regard to the Incremental Fit Indices the result produced an Adjusted Goodness-of-fit Index (AGFI) of .89, a Tucker Lewis index (TLI) of .94, and a normed fit index (NFI) of .91. These indices signify an acceptable fit model, with the exception of the AGFI value of .89 which is tolerable but slightly below the recommended level of .90.

Finally, the Parsimonious Fit Indices provided information for comparison between models of differing complexity and objectives by evaluating the fit of the model versus the number of estimated coefficients needed to achieve that level of fit. The Parsimony Goodness-Of-Fit Index (PGFI) was .64, the Parsimony Normed Fit Index (PNFI) was.70, the Comparative Fit Index (CFI) was .95 and the Incremental Fit Index (IFI) was .95. The higher values of IFI and CFI indicate a better model fit to the data. As both the IFI and CFI values were .95, this suggests that the values were sufficient to confirm a good fit of the model to the data. Given all these indications, the overall CBBE measurement was adopted without further modification.

4.8.4 Final CBBE-BMP Structural Model

The final CBBE measurement model is outlined in Figure 4.11 apparently exhibits the hypothetical relationship between CBBE constructs and brand market performance. Evidently, Brand recall and brand recognition as constructs of brand awareness, active engagement, sense of community, and behavioural loyalty as constructs of brand loyalty synergises with brand association and perceived quality to establish strong customer based brand loyalty which significantly contributes to accomplishment of strong market brand performance. The ultimate market brand performance is measurable using customer, employee and financial measures.

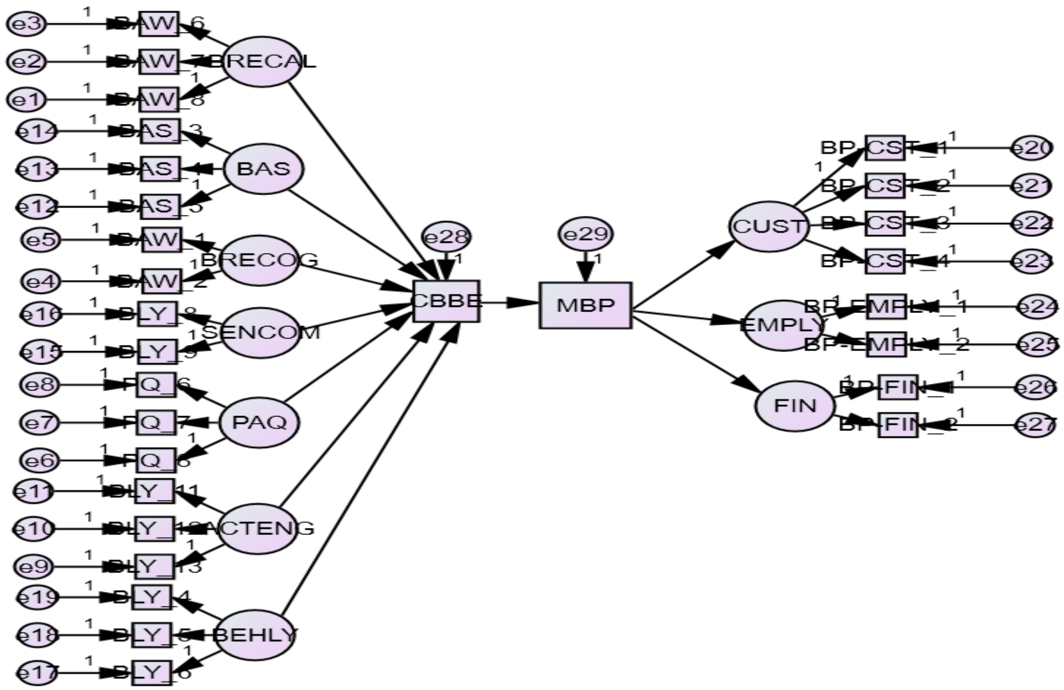

Figure 4.11: CBBE-BMP

Structural Model

4.9 Hypotheses Testing

Once all constructs in the CBBE measurement model were validated and satisfactory fit achieved (Anderson & Gerbing, 1988; Hair, *et al.,* 2010; Kline, 2005; Homles-Smith, *et al.,* 2006), a structural model could then be tested and presented as a second and main stage of the analysis. The structural model specifies the theoretical relationships between or among the constructs (Bollen, 2011; Joreskog, 1993) as well as identifying whether the construct(s) directly or indirectly influence or change the values of other constructs in the model. The hypothesis test is based on two sets of data-from bank customers and from bank managers.

Data on CBBE was collected from the customers of commercial banks in Kenya who constituted a final sample size of 347, data on brand market performance measures was collected from senior managers of these commercial banks one from each bank as described in Chapter Three (see sections 3.3 - 3.6). The final sample size of the bank managers was 35, representing 35 commercial banks out of the total 44 commercial banks in Kenya. Since the unit of analysis for the effect of CBBE on brand market performance in this thesis was the "brand" which is corresponded to a commercial bank, scores for each dimension of CBBE in relation to each of the 35 commercial banks were matched with brand performance measures provided by the bank managers.

Analytical techniques used to test the hypotheses in this study were correlation analysis and regression analysis.Prior to hypotheses testing, the measurement scales for each construct were summated both for the validated CBBE measurement model and brand market performance. The average CBBE for each commercial bank was obtained by averaging the responses of customers from each of the commercial banks on the CBBE constructs and matching the scores with the responses of the respective bank managers on brand market performance in a new and separate dataset. The new dataset represent data on the "brands" and hypotheses testing proceeded as discussed in the following sections.

4.9.1 Brand Awareness and Brand Market Performance

In this section, the results of the hypothesized relationship between brand awareness and brand market performance are presented and discussed. The null and alternative hypotheses were stated as:

H_{01}: Brand awareness does not have a statistically significant effect on brand market performance in the service sector Kenya

H_{A1}: Brand awareness has a statistically significant effect on brand market performance in the service sector Kenya

A Pearson's Product Moment Correlation analysis was conducted using average scores of brand awareness constructs (brand recall, brand recognition and overall brand awareness) and brand market performance variables (financial, customer and employee measures and overall brand market performance).

Table 4.17: Correlations Between Brand Awareness Measures and Brand Market Performance Measures

		Brand recall	Brand recognition	Brand Awareness	Financial Measures	Customer Measures	Employee Measures
Brand recognition	Pearson's r	-.093	1				
	Sig. (2-tailed)	.597					
	N	382	382				
Brand Awareness	Pearson's r	.742**	.599**	1			
	Sig. (2-tailed)	.000	.000				
	N	382	382	382			
Financial Measures	Pearson's r	.238	.218	.338*	1		
	Sig. (2-tailed)	.169	.209	.047			
	N	382	382	382	382		
Customer Measures	Pearson's r	.289	.100	.300	-.094	1	
	Sig. (2-tailed)	.092	.569	.080	.590		
	N	382	382	382	382	382	
Employee Measures	Pearson's r	.163	-.067	.086	.216	-.058	1
	Sig. (2-tailed)	.349	.702	.623	.213	.740	

	N	382	382	382	382	382	382
Overall Brand market performance	Pearson's r	.402*	.133	.413*	.408*	.748**	.504**
	Sig. (2-tailed)	.017	.446	.014	.015	.000	.002
	N	382	382	382	382	382	382

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

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

The bivariate correlation analysis results in Table 4.17 show that the relationships between both brand recall and brand recognition as constructs of brand awareness and individual measures of brand market performance (financial, customer and employee measures) were not statistically significant as all the respective associated *p*-values were greater than .05. On the contrary, the relationship between overall brand awareness (brand recall and brand recognition combined) and financial measures was positive and significant (r = .338; p = .047; N=382). In addition, the relationship between overall brand awareness as a component of CBBE and overall brand market performance was positive and significant (r = .413; p = .014; N=382).

These results implied that on a whole, brands (commercial banks) that had high brand awareness among their customers (i.e. banks whose customers consistently remembered them as their favourite banks, the name of the bank would always come to the customers' mind when someone would talk about banking, the customers could recognize the looks of the bank from among their competitors and would have no difficulty in imagining the bank in their mind) had better average financial performance as well as overall brand market performance.

Overall, the above results of correlation analysis provide support for H_{A1}that brand awareness has a statistically significant effect on brand market performance in the service sector in Kenya. As a result, the null hypothesis H_{01} that stated that brand awareness does not have a statistically significant effect on brand market performance in the service sector Kenya is nor empirically supported by this study. The null hypothesis (H_{01}) was therefore rejected at this point in favour of the alternative hypothesis (H_{A1}).

The findings were consistent with theory that suggest that brand awareness is a key driver of brand market performance (Erdem & Swait, 2008) as it signals presence and substance of the brand which causes the services or products associated with the brand to be purchased by many other buyers (Aaker, 2011). Brands with high awareness are also associated with reduced functional risk for the customer, which further influences brand choice and ultimate consumption of the service/product offered by the brand. Empirically, the results of this study on the relationship between brand awareness and brand market performance validate the results of earlier studies by Huang &Sarigollu (2012), Kim, *et al.* (2013) and Baldauf, *et al.*(2013) who provided empirical support for the existence of a positive relationship between brand awareness and measures of brand market performance.

4.9.2 Brand Associations and Brand Market Performance

The second set of hypothesis tested the relationship between brand associations, which represented information contained in the commercial banks' customers' minds about their favourite banks and which was connected to the node of the brain memory (Emari, *et al.*, 2012). The null and alternative hypotheses that were stated *apriori* were:

H_{02}: Brand association does not have a statistically significant effect on brand market performance in the service sector Kenya

H_{A2}: Brand association has a statistically significant effect on brand market performance in the service sector Kenya

The final CBBE measurement scale had only one construct measuring brand associations, whose composite average score for each commercial bank (brand) was used to run the Pearson's Product Moment Correlation against measures of brand market performance. The results were as presented in Table 4.19.

Table 4.18: Correlations Between Brand Association and Brand Market Performance Measures

		Brand associations	Financial Measures	Customer Measures	Employee Measures
Financial Measures	Pearson's *r*	.237	1		
	Sig. (2-tailed)	.170			
	N	382	382		
Customer Measures	Pearson's *r*	.458**	-.094	1	
	Sig. (2-tailed)	.006	.590		
	N	382	382	382	
Employee Measures	Pearson's *r*	.197	.216	-.058	1
	Sig. (2-tailed)	.256	.213	.740	
	N	382	382	382	382
Overall Brand market performance	Pearson's *r*	.555**	.408*	.748**	.504**
	Sig. (2-tailed)	.001	.015	.000	.002
	N	382	382	382	382

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

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

The results showed that the relationship between brand associations and customer measures of brand market performance was positive and statistically significant (r = .458; p = .006; N=382). However, the relationships between brand associations and financial measures (r = .237; p = .170; N=382) as well as employee measures (r = .197; p = .256; N=382) as other measures of brand market performance were not statistically significant. As a whole, brand associations were positively and significantly correlated to overall brand market performance (r = .555; p = .001; N=382).

The results presented implied that brands (commercial banks) that had strong brand associations among their customers with respect to customers' pride in being customer of the particular bank, perceived trustworthiness of the bank and their employees as well as fair pricing of bank services performed reasonably better in terms of customer satisfaction, loyalty and customer awareness of the banks and service offerings, as well as overall brand market performance. Therefore, these findings provide empirical support the hypothesis (H_{A2}) that brand associations have a statistically significant effect on brand market performance, but do not support the null hypothesis (H_{02}) which stated that brand associations do not have a statistically significant effect on brand market performance. Consequently, the null hypothesis was rejected in favour of the alternative hypothesis.

The above findings provide empirical support to theoretical propositions that unique and strong brand association are essential sources of brand equity that drive customer behaviour with respect to purchasing the services of the brand which eventually improves the brand performance (Alsop, 2012). As suggested by Wang (2015), customers' feelings and cognitive capacity produce their brand association toward the performance of the brand equity in the marketplace and hence measurable feature of brand equity in the marketplace. In addition, these results provide empirical validation for prior studies by Ling and Severi (2013), Kim and Kim (2012) and Yoo, *et al*. (2011) who separately provide empirical evidence that brand association are positive correlates of brand equity as a measure of brand market value or performance.

4.9.3 Perceived Quality and Brand Market Performance

The third set of hypothesis tested the relationship between perceived quality, defined by Zeithaml (2008) as the customer's judgment about a product's/service's overall excellence or superiority that is different from objective quality, and brand market performance in the commercial banks as a services sector in Kenya. The hypothesized relationships were expressed by the following set of hypotheses.

H_{03}: Perceived quality does not have a statistically significant effect on brand market performance in the service sector Kenya

H_{A3}: Perceived quality has a statistically significant effect on brand market performance in the service sector Kenya

The final CBBE measurement model had only one construct measuring perceived quality. The results of the Pearson's Product Moment Correlation that tested whether perceived quality had statistically significant relationship with brand market performance were as summarized in table 4.19.

The results suggest that perceived quality had a positive and significant relationship with customer measures (r=.390; p=.020; N=382) and employee measures (r=.342; p=.044; N=35) of brand market performance.

Table 4.19: Correlations Between Perceived Quality and Brand Market Performance Measures

		Perceived Quality	Financial Measures	Customer Measures	Employee Measures
Financial Measures	Pearson's *r*	.126	1		
	Sig. (2-tailed)	.472			
	N	382	382		
Customer Measures	Pearson's *r*	.390*	-.094	1	
	Sig. (2-tailed)	.020	.590		
	N	382	382	382	
Employee Measures	Pearson's *r*	.342*	.216	-.058	1
	Sig. (2-tailed)	.044	.213	.740	
	N	382	382	382	382
Overall Brand market performance	Pearson's *r*	.525**	.408*	.748**	.504**
	Sig. (2-tailed)	.001	.015	.000	.002
	N	382	382	382	382

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

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

Whilst the relationship between perceived quality and financial measures of brand market performance was not statistically significant ($r=.126$; $p=.472$; $N=382$), the relationship between perceived quality and overall brand market performance was positive and statistically significant ($r=.525$; $p=.001$; $N=382$).

Despite the lack of significant correlation between perceived quality and financial measures, the overall results provide confirmatory support for the hypothesis (H_{A3})that perceived quality has a statistically significant effect on brand market performance while lacking empirical backing to $H_{03,}$ that perceived quality does not have a statistically significant effect on brand market performance. Thus, the null hypothesis (H_{03}) was rejected.

Customers who perceive employees of their favourite banks as never too busy to respond to customers' requests, give customers individual attention and as well as the perception that employees' behaviour of such particular banks instil confidence and generally provide positive appraisal of service quality in terms of superiority when compared to customers' expectations. Such positive perceptions of service quality leads to higher customer satisfaction and loyalty to the bank, employee satisfaction and retention and generally better overall market performance of the bank/brand. These findings were expected because sufficient empirical evidence has been established by previous studies relating to the perceived quality and brand market performance relationships (Baldauf, *et al.*, 2013; Kim, *et al.* (2013). Nevertheless, as alluded to by Manrai, *et al*, (2011), perceived quality is one of the antecedents of customer satisfaction and has a positive effect on customers purchase intention which enhances customer loyalty and thus brand market performance as shown by the foregoing result of this study.

4.9.4 Brand Loyalty and Brand Market Performance

The fourth and final set of hypothesis in this study tested the relationship between brand loyalty, defined by Aaker (2011)as the attachment that a customer has to a brand, with measures of brand market performance. The null and alternative hypotheses stated *apriori* were thus:

H_{04}: Brand loyalty does not have a statistically significant effect on brand market performance in the service sector Kenya

H_{A4}: Brand loyalty has a statistically significant effect on brand market performance in the service sector Kenya

Following CFA analysis as described under section 4.8.3, the final CBBE measurement model had three brand loyalty dimensions - active engagement, sense of community and behavioural loyalty. Therefore, a Pearson's Product Moment Correlation analysis was conducted between average scores for these dimensions of brand loyalty, overall brand loyalty and the average scores for measures of brand market performance. The results of correlation analysis were as summarized in Table 4.21.

Table 4.20: Correlations Between Measures of Brand Loyalty and Brand Market Performance Measures

		Active engagement	Sense of community	Behavioural loyalty	Brand Loyalty	Financial Measures	Customer Measures
Sense of community	Pearson's *r*	-.209	1				
	Sig. (2-tailed)	.227					
	N	382	382				
Behavioural loyalty	Pearson's *r*	-.173	.239	1			
	Sig. (2-tailed)	.319	.166				
	N	382	382	382			
Brand Loyalty	Pearson's *r*	.439**	.524**	.672**	1		
	Sig. (2-tailed)	.008	.001	.000			
	N	382	382	382	382		
Financial Measures	Pearson's *r*	.311	.108	.068	.305	1	
	Sig. (2-tailed)	.069	.538	.699	.075		
	N	382	382	382	382	382	
Customer Measures	Pearson's *r*	.122	.082	.224	.271	-.094	1
	Sig. (2-tailed)	.487	.638	.196	.116	.590	
	N	382	382	382	382	382	382
Employee Measures	Pearson's *r*	.179	.518**	.204	.514**	.216	-.058
	Sig. (2-tailed)	.304	.001	.240	.002	.213	.740
	N	382	382	382	382	382	382
Overall Brand market performance	Pearson's *r*	.302	.351*	.303	.578**	.408*	.748**
	Sig. (2-tailed)	.078	.039	.076	.000	.015	.000
	N	382	382	382	382	382	382

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

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

As the results in Table 4.21 demonstrate, sense of community as a dimension of brand loyalty had positives and significant relationships with employee measures of brand market performance (r=.518; p=.001; N=382) and overall brand market performance (r=.351; p=.039; N=382). Additionally, overall brand loyalty also had positive and significant relationships with employee measures of brand market performance (r=.514; p=.002; N=382) and overall brand market performance (r=.578; p=.000; N=382). However, active engagement and behavioural loyalty as individual dimensions of brand loyalty did not have significant relationships with any of the three brand market performance measures or overall brand market performance. Given that the overall result show that overall brand loyalty has positive and significant relationship with overall brand market performance, there was empirical evidence to support the hypothesis H_{A4} that brand loyalty has a statistically significant effect on brand market performance. This meant that the null hypothesis (H_{04} - brand loyalty does not have a statistically significant effect on brand market performance)had no confirmatory support in light of the foregoing findings and was consequently rejected.

Generally, the above results implied that brands or commercial banks that scored highly in relation to brand loyalty dimension of CBBE, that is, commercial banks whose customers expressed strong attachments to the banks as to brands scored highly in relation to overall market brand performance compared to those that recorded weak customer brand loyalty.

4.10 Regression Analysis

The average scores for the composite CBBE constructs (brand awareness, brand associations, perceived quality and brand loyalty) were entered together into a single, multivariate regression model to determine the integrative effects of these variables factors on brand market performance. Thus, the following summary regression model resulted with the 4 predictors (CBBE constructs, that is, brand awareness, Brand association, perceived quality and brand loyalty) and brand market performance as the response variables using the regression model below:

$$\mathbf{Y = \beta_0 + \beta_1 BAW + \beta_2 BAS + \beta_3 PQ + \beta_4 BLY + \varepsilon}$$

Where:

Y = Independent variable (brand market performance)

β_0 = Constant term

β_1.... **β_4** = regression coefficients of the independent variables

BAW = Brand Awareness

BAS = Brand Associations

PQ = Perceived Quality

BLY = Brand Loyalty

ε = error term, disturbance term, or noise.

Table 4.21: ANOVA Results for the Summary Regression Model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.673[a]	.761	.743	1.92756

a. Predictors: (Constant), Brand Loyalty, Brand Awareness, Brand associations, Perceived Quality

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	210.450	4	52.613	23.830	.000[b]
1	Residual	66.235	30	2.208		
	Total	**276.686**	**34**			

a. Dependent Variable: Overall Brand market performance

b. Predictors: (Constant), Brand Loyalty, Brand Awareness, Brand associations, Perceived Quality

When brand market performance was regressed against brand awareness, brand associations, perceived quality and brand loyalty, the ANOVA results indicated that the model was significant (p = 0.000), with the independent variables explaining 76.1% (R^2= 0.761) of the variance in brand market performance. The ANOVA results were as shown in Table 4.21.

The regression model coefficient results for the effect of CBBE on brand market performance were as presented in Table 4.22.

Table 4.22: Regression Model Coefficients for the Effect of CBBE on Market Brand Performance

Coefficients[a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
	(Constant)	60.760	9.926		-6.121	.000
1	Brand Awareness	1.126	.300	.337	3.754	.001
	Brand associations	1.707	.373	.419	4.570	.000

Perceived Quality	2.028	.535	.358	3.787	.001
Brand Loyalty	1.054	.293	.347	3.600	.001

a. Dependent Variable: Overall Brand market performance

The multivariate correlation and regression analysis of the full model revealed that overall, at $p < 0.01$, brand awareness, brand associations, perceived quality and brand loyalty positively influence brand market performance. Thus, the resulting summary regression model would be:

BMP= 60.760+1.126(BAW) + 1.707(BAS) + 2.028(PQ) + 1.054(BLY)

Where: BMP -Brand Market Performance, BAW-Brand Awareness, BAS-Brand Association, PQ- Percieved Quality and BLY- Brand Loyalty

The regressional equation above connotes that holding all indipendent variables(Brand Awareness, Brand Association, Percieved quality, and Brand Loyalty) constant at zero, brand market performance would be 60.76. Secondly, the analysis also shows that holding all other independent variables constant(BAS, PQ and BLY) at zero, a unit increase in Brand awareness would lead to 1.126 increase in Brand Market Performance. Thirdly, holding BAW, PQ and BLY constant at zero, a unit increase in Brand Association to result to 1.707 increase in Brand Market Performance. Fourthly, when BAW, BAS and BLY are held inoperative, a unit increase of Percieved Quality would result to 2.208 increase in Market Brand Performance. Fifthly, if BAW, BAS and PQ are held at zero, a unit increase in Brand Loyalty would lead to 1.054 increase in Market Brand Performance**.**

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This thesis is a product of a study whose primary objective was to investigate the role of customer-based brand equity on brand market performance in the banking services sector in Kenya. In particular and based on the conceptualizations of CBBE by Arker (1991) and Keller (1993), the study sought to examine the effects of CBBE constructs namely brand awareness, brand associations, perceived quality and brand loyalty on brand market performance along financial, employee and customer based measures. In the preceding a comprehensive introduction to the study was provided, both theoretical and empirical literature reviewed and presented, a robust methodology and research execution strategy described and the results of the research study presented and discussed. The research was also founded on pertinent theoretical frame particularly reasonable model of brand equity association. Networks memory model and investigative constituted fundamental theories that this study is founded. These were explored in chapter two. Extensive data analysis using statistical package of social (SPSS) and SPSS-AMOS are explored in chapter 4 and findings arising from the analysed data, the conclusion and recommendations are summarized in this chapter. In this chapter, therefore, a summary of the key findings of the research study are provided, conclusions drawn from the findings, recommendations advanced in light of the significance of the study's findings and areas for further research proposed. These are the areas that define the flow of this chapter as follows.

5.2 Summary of Major Findings

The data upon which the results presented in this thesis were collected fromboth customers and branch managers of commercial banks in Mombasa City. A total of 347 customers of total of 35 commercial banks participated in the survey representing an effective response rate of 87%. All the branch managers of the 35 commercial banks participated in the study, representing 81.4% of commercial bank brands in Kenya.

The final commercial banks customers' sample had a higher number of 68% male and 32% female respondents. The modal age group was 35-44 years with a frequency of 42% with those above 55 years of age forming only 2% of the sample. Education-wise, 35% of the sample had secondary school level of education, 27% were diploma holders, 25% undergraduate degree holders, 13% primary school drop outs and less than 1% had post graduate education qualifications. The respondents operated mainly savings account (47%) and current accounts (48%), while the other 5% were corporate account holders.

Explanatory Factor analysis was performed to determine how the items loaded. 32 Hans were factor analysed using PCF analysis that utilized promax rotation with Kaiser Normalisation. Almost the 32 items of CBBE measurement correlated with each other and loaded into 7 sub-factors which were renamed (perceived quality, active engagement, brand recall, brand recognition, sense of community, behavioral loyalty, and brand association. Determination of Cronbach's Alpha value indicated that all the sub-variable were over 0.70 with values ranging 0.755-0.827. The 7-factors accounted for 67.12% of the total variance and indicated by Eigen values and particularly the extraction sums of squared loadings obtained using Extraction method Principal Component Analysis.

The performance of EFA and attainment of minimum threshold values enabled the minimum threshold values enabled the researcher to proceed to Confirmatory Factor Analysis (CFA) for structural modeling. An initial CBBE measurement model estimation was performed to as the unidimensionality of underlying constructs using path diagrams. This was performed for each primary variable using SPSS-AMOS V. 23.0.

During EFA, to sub-factors emerged namely Brand Recall and Brand Recall and Brand Recognition each with 4 observed indicators which were exogenous and SEM model specified that they are inter-correlated (cov. 0.47).

Initial goodness of Fit Model test as measured on the basis of X^2, GFI, AGFI, RMSEA, NFI, CFI and TLI, indicated the need for model re-specified. The ultimate model fitted within the recommended indices. These were X^2 = 13.393, GFI = 0.986, AGFI = 9.46, NFI 0.983, CFI = 9.88, TLI = 0.970 and RMSEA = 0.082.

For Brand Association the Goodness of fit indices after re-specification were GFI = 1.000 NFI = 1.00, CFI = 1.000, TLI = 1.000 and RMSEA = 0.000.

Perceived quality and customer brand loyalty sub-models also fitted within the recommended indices after re-specifications.

The overall model of CBBE fitted significantly well within the recommended goodness of fit indices as measured on the bases of Absolute Fit Measures, (AFM) Intal Incremental Fit Measures (KFM) and Pasimonious Fit Measures (PFM).

The results this study generally support the alternative hypothesis relationships in chapter one based on the objectives of this study. overall, the study indicated market brand performance is largely influenced by brand awareness, brand association, customer brand loyalty and perceived quality. Below are summaries of findings of the variables under consideration in this study.

5.2.1 Effect of Brand Awareness on Brand Market Performance

The first objective of the study was to examine the effect of brand awareness on brand market performance. In line with Keller (2013), brand awareness in this thesis was operationalized asthe customers' ability to recall and recognize their commercial bankas reflected by their ability to identify the bank under different conditions and to link the brand name, logo and symbol to certain associations in memory. The initial brand awareness measurement scale consisted of 8 items , which were reduced to 7 during reliability analysis in the initial stages of measurement scale validation. Through EFA two distinct factors of brand awareness - brand recall and brand recognition were identified and validated though SEM in CFA. The final brand recall measurement scale comprised three items with an AVE of 0.6 and composite reliability of 0.82 while brand recognition consisted two items with an AVE of 0.7 and composite reliability of 0.83. The overall, two-factor brand awareness measurement scale had an AVE of 0.65 and composite reliability of 0.9.

The three items captured in brand recall depicted the customers' ability to identify their banks under different conditions, while the two items in brand recognition reflected the customers' ability to link their banks to certain associations in their minds as suggested by Keller (2003). Independently, these two factors of brand awareness did not have statistically significant association with individual measures of brand market performance (financial, customer and employee measures). However, the relationship between composite brand awareness score and financial measures was positive and significant (r=.338; *p*=.047). Further, overall brand awareness was a positive correlate of brand market performance was positive and significant (r=.413; *p*=.014).From these results the alternative hypothesis, Ha_1 , that brand awareness has a statistically self significantly effect on market brand performance was accepted. Consequently, the null hypothesis (Ha_0) that brand awareness has no statistically significant effect on market brand performance is effectively rejected.

5.2.2 Effect of Brand Associations on Brand market performance

The second objective of this study was to assess the effect of brand associations on brand market performance. The brand associations dimension of CBBE assessed the bank customers' brand-related thoughts, feelings, perceptions, images, experiences, beliefs, attitudes that are linked in memory to their favourite bank (Kotler & Keller 2006). Brand associations were initially operationalized using 10 questionnaireitems that captured all the mentioned elements of brand associations. However, during internal consistency reliability analysis to remove "garbage" items, tow items that had low CITCs were dropped from the school.

Through EFA, the brand associations dimension of CBBE was retained with 5 items of the original its original measurement scale strongly loading onto its factor with a Chronbach's alpha of 0.79. Through SEM in CFA to validate the brand associations measurement scale, the final scale comprised three indicators that may be described as reflecting the customers' social image (pride) for being associated with their banks, the brand's trustworthiness attributable to employee behaviour and perceived value that is captured by their attributes to the prices of the service relative to their experiences. The final brand associations measurement scale (3-item) had an AVE of 0.57 and composite reliability of 0.80.

The study established that brand associations had a significant and positive correlation with the customer-based measures of brand market performance (r=.458; *p*=.006), but a non-significant correlation with financial-based measures (r=.237; *p*=.170) as well as employee-based measures (r=.197; *p*=.256). On the other hand, brand associations were positively and significantly correlated to overall brand market performance (r =.555; *p*= .001). Results have shown that there is positive significant correlation between brand association and overall market brand performance (r = 0.5555; P=.011). therefore brand associations which serve as informational nodes linked to a brand node in a memory have impactive meaning to consumers (Keller, 2010) customers may associate a brand to good design, ease of user leading edge technology, educative, innovative, fun, cool, friendliness, creativity and so on which make up a customer's image.

5.2.3 Effect of Perceived Quality on Brand Market Performance

The third objective of the study was to analyze the effect of perceived quality on brand market performance. The initial PQ measurement scale comprised 9 items that were operationalized to evaluatethe bank customers' judgments about their respective banks services' overall excellence in line with Zeithaml's(2008) conceptualization of perceived quality. Four (4) of the 9 items were dropped from the scale due to low CITC values that contributed to lower Cronbach alpha value that measured internal consistency of the PQ measurement scale. All the four items of the PQ measurement scale were retained after EFA, with Chronbach alpha of 0.79.

During CFA, one of the items was dropped from the scale due to its low R^2 value low standardized loading on PQ as a factor. This resulted in a 3-item PQ measurement scale with an AVE of 0.57 and composite reliability of 0.8. The final PQ measurement scale had as its critical elements, responsiveness (Employees of this bank are never too busy to respond to customers' requests), empathy (Employees of this bank give customers individual attention) and assurance (The behaviour of employees of this bank instils confidence in me).

Based on the Pearson's Product Moment Correlation analysis results, the study established that perceived quality had a positive and significant relationship with customer-based performance measures (r=.390; *p*=.020) and employee-based measures (r=.342; *p*=.044), but the relationship between perceived quality and financial-based measures of brand market performance was not statistically significant (r=.126; *p*=.472). Nevertheless, the relationship between perceived quality and overall brand market performance was positive and statistically significant (r=.525; p=.001). This implied that customers perceptions on quality plays significant role in consumer purchase, on decision making.

5.2.4 Effect of Brand Loyalty on Brand Market Performance

The fourth and final objective of the study was to investigate the effect of brand loyalty on brand market performance. The original brand loyalty measurement scale comprised a total of 13 scale items that assessed customers' attachment to their favourite commercial banks. One of the items was dropped from the scale during initial reliability analysis in the first step of scale validation due to its negative effect on internal consistency reliability. During EFA, only 9 out of the remaining items of the brand loyalty measurement scale were retained after meeting the threshold factor loading value. These items loaded onto three factors that were labeled "Active engagement" (4 items), "Sense of community" (2 items) and "Behavioural loyalty" (3 items) on the basis of based the conceptual meanings of the items that hung together to load on these factors.

In the process of CFA, only one item was dropped from the Active engagement sub-scale of brand loyalty, an item that originally belonged to the brand associations scale to make the three-factor brand loyalty measurement scale valid. The final active engagement sub-scale had an AVE value of 0.62, composite reliability =0.83; sense of community: AVE =0.58; composite reliability = 0.74 and; behavioural loyalty: AVE = 0.61; composite reliability = 0.82. The overall brand loyalty measurement scale had an AVE of 0.61 and composite reliability of 0.93.

The study established that sense of community as a dimension of brand loyalty positively and significantly correlated with employee-based brand market performance (r=.518; p=.001) and overall brand market performance (r=.3821; p=.039). Further, overall brand loyalty was positively and significantly correlated with employee-based performance (r=.514; p=.002) and overall brand market performance (r=.578; p=.000). However, active engagement and behavioural loyalty did not have significant correlations with any of the three brand market performance measures or overall brand market performance. Overall, it is apparent that brand loyalty has significant effect on brand performance in the market and hence it is paramount that firms establish long-term brand loyalty on their brands for long-term competitiveness.

5.3 Conclusion

This thesis has developed a valid CBBE measurement model within a B2C service context of a developing country, comprising of brand recall and brand recognition as two elements of brand awareness, brand associations, perceived quality and three dimensions of brand loyalty namely active engagement, sense of community and behavioural loyalty. Based on the contextual validity of this CBBE measurement framework, the following conclusions were drawn from the results of the study reported herein this thesis.

The most critical features of brand awareness are brand recall and brand recognition manifested in the customers' ability to identify their banks under different conditions and link their banks to certain associations in their minds as suggested. Whilst these two elements of brand awareness are distinct, they are unlikely to independently affect brand performance on the market but only exert a positive effect jointly. Therefore, brand awareness as an amalgam of brand recall and brand recognition is a significant and positive correlate of brand market performance. The findings on this variable were consistent with the earlier studies by Huang and Sarigollu (2012), Kim *et.al*(2013) which provided evidential relationship of brand awareness and market brand performance, a creation of brand awareness entails familiarity of brand through repeated exposure. The more a customer experiences a brand by seeing it, hearing it or thinking about it, the more likely the customer will register the brand in memory.

Brand associations within B2C service context are best captured in the customers' social image associated that comes with the pride of associating with a given service provider, the brand's trustworthiness attributable to employee behaviour and perceived value that is captured by their customers' attribution of value for their the prices of the services received from the service provider.In building customer based brand equity, it is important to identify the congruency between brand association and brand market performance. Brand associations are situations or contempt which depend and vary according to what customers want to achieve in purchase or consumption situations. Brand association is our fundamental elements of building customer based brand equity. Associations on a brand are in different forms and may reflect characteristics of the product or aspects independent of the product.These associations can broadly be categorized into service and organizational associations which, taken at collectively, positively affect brand market performance. It was apparent from the results of this study that brand associations have significant effect on market brand performance.

Perceived quality plays a significant role in relation to positive brand market performance of service brands. Perceptions are stronger than realities. Customers' perceptions on quality of a product, inclusive of services, have a direct influence on brand strength in the market. Market leaders who are attached by lower-priced competitors can choose to maintain price and raise the perceived quality of their products. A company can charge a higher price than competitors because the brand has higher perceived quality than the competitors. "Ceteris paribus", the higher the perceived qualify the more likely customers are to buy a product. Key elements of that would drive customers to have positive perceptions of quality with regard to service brands include the responsiveness of the service providers as reflected in the employeeswillingness to promptly respond to customers requests, empathy that is attributable toemployees provision of individual attention to customers individual attention and assurance that comes with the confidence instilled by employees of the service provider among customers. Service brands that are perceived to be responsive, empathize with the customer and providing the confidence required by customers are more likely to outperform their competitors on the market. This study has shown that perceived qualify has a significant effect on customer based brand equity as one of the fundamental elements of building a strong brand equity.

The study concludes that brand loyalty, just as prior researchers have vouched for this dimension of CBBE, is an extremely important dimension of that rests at the apex of brand building efforts. Customer brand loyalty services as fortification around a product. It enables brands to "shut out" new competitive entrants. Customer loyalty is one of the ways of analyzing market share movement. The long-term and short-term competitiveness of a brand is dependent on the degree of customer loyalty.

According to resource model, highest level of customer loyalty is depicted by the extent to which customers resonate with a brand. This serves a myriad of benefits to organizations. Customer loyalty depicts the intensity or the depth of the psychological bond that customers have with a brand and the level of activity engendered by such loyalty such as repeat purchase rates, extent to which customers seek information on a brand and participate in events relating to the brand in this case – banks. From a marketing point of view, the most salient facets of brand loyalty are active engagement, sense of community and behavioural loyalty. For service brands, brand loyalty drives brand market performance through repeat purchases, positive word of mouth and payment of premium price. This study revealed that there exists strong relationship between customer brand loyalty and market brand performance.

Market brand performance is also a function of financial, customer and employee measures. This study showed that these contribute significantly towards overall brand performance customer measures and employee measures.

5.4 Recommendations

This study has brought out fundamental insights on the role of CBBE on market brand performance that have been revealed by the sequential analysis of collected data using modern analysis tool – SPSS Amos. This has ultimately led to subsequential CBBE measurement model that at glance depicts the relationships of the variables under consideration (brand awareness, brand association, perceived quality and customer brand loyalty) and overall market brand performance. Arising from the emerging results of this study, the following recommendation are herein advanced.

To build an enduring brand awareness, instrument of brand recall is recommended to service firms. This is attainable through undertaking aggressive brand recall initiativessuch as advertising which may be continuous, concentrated, flighted or pulsed.

Service firms need to enhance the degree of recognisability of brands. Brand recognition can be attained through distinctive brand differentiation with gradation of noticeable. Difference from competing brands on the bases of colour, shapes, taste, logo, jingle, name, character slogan and unique selling propositions. The more distinctive a brand is from competitive products, the salience it is to the customers and extensionally the easier it is to position it in the minds of customers.

Brand association are declared to have subliminal contributory effect as a customer Based Brand Equity building elements and its consequential effect on market brand performance. Firms should strive to establish strong and positive brand associations as fundamental elements of brand image buildings. Positively and favorability of primary and secondary associations to a brand are important elements that firms should enhance to build strong brands.

Brand quality perception contributes significantly towards establishment of CBBE and subsequently to brand performance in the market. To build strong and enduring perceptions towards brands, it is recommended that service firms forms the strength of perception enhancing stimuli that are more salient that the competing brands. Managers need to focus on stimuli that relate to customers' needs at a particular point in time.Managers need to widen the brand quality perceptual gap by broadening the deviation of noticeability in different relative to average competing brands stimuli.

People tend to forget much that they learn and retain information that supports their current beliefs and attitudes. To obviate against brand quality perceptual problem, it is recommended that marketing managers use instruments of brand quality knowledge enforcement such as drama – where applicable and present advertising messages respectively.

Brand loyalty is an essential element in building CBBE and enhancement of brand performance. Loyalty can be divided into four categories: hardcore brand loyalty for customers who always buy one brand only split brand loyalty for customers who buy two or three brands, shifting brand loyalty for customers who shift from one brand to another and brand switchers for customers who display no consistent purchase of one brand. Marketers should strive to achieve hardcore brand loyalty which represents high degree of brand resource. Managers should take great keenness on what constitutes the brand loyalty as some customer behavioral patterns do not constitute loyalty such as lack of alternative brand, purchasing habit, purchasing indifference, low price and avoidance of high switching cost.

It is also recommended that marketing managers create a brand sense of community. In this respect, the managers should make the customers have a feeling of kinship or affiliation with other people associated with the brand whether they are fellow brand users, or employees or representatives of the company.

Marketing managers are also encouraged to illicit behavioral brand loyalty among existing customers through influencing repeat purchases. They can achieve this by ascertaining how often customers purchase the brand and the quality they purchase.

Customer engagement should be pursued as an important element of brand loyalty. To achieve this marketing managers should operationalize strategies that influence customers to willingly invest their time, energy, money and other resources in the brand beyond those expanded during purchase or consumption of the brand. For instance, bank customers can be influenced to join an account holder club centered on the bank product/.account, receive account updates, and exchange correspondence with other same account holders or contact brand relationship managers frequently, visit brand website, participate in chat rooms or post discussions or become brand evangelists and brand ambassadors. This signifies not only strong brand loyalty but also high degree of CBBE.

Marketing managers must realize that the long-term success of all future brand marketing programmes is greatly affected by the knowledge about the brand in memory that has been established by the firm's marketing efforts. It is critical that managers understand how their marketing programmes affect consumer learning and thus subsequent recall for brand-related information.The success of such programmes can be harnessed by activelyengaging customers and building long-term relationships with them in a two-way dialogue using tools a combination of effective media platforms such as offline interactions and social media platforms as proposed by Homburg, et al. (2010).

In order to enhance the brand influence brand maintainers should proactively use brand associative uniqueness, which creates the relevant brand positional strategies and reduce the gap of the brand relationship between the brand and customers (Till, *et a.*, 2011; Fournier, 2011). This is because customers' associative effects result from the presentations of the services' different features, and these presentations evoke customers' imaginations, such as the implication of the brand name or the characteristics of services.

5.5 Areas For Further Research

This study has provided clear understanding of the role of customer based brand equity on market brand performance. In the course of undertaking this research, the researcher encountered divergent CBBE related research areas that deserve special attention by future researchers to bring out more underlying knowledge towards addressing grey areas in building holistic brand equity. For purposes of confining this research within the scope intended and as specified in the general and specific objectives of this study, the researcher could not deviate from the primary purpose of this study. Therefore, for future research utilizing the consumer based brand equity culminating into brand resonance, there are some important considerations to be made. The researcher recommends further research in the following areas:

Therefore, for future research utilizing the consumer based brand equity culminating into brand resonance, there are some important considerations to be made. The researcher recommends further research in the following areas:

Industry market equity can significantly contribute towards specific industry brands' equity building as it has been hinted in the course of this research that brands can leverage of the level of customers resonance within service industry. Hence future research can be directed towards the broad spectrum of industry equity and possible effect on competitive brands within the industry. For instance, the insurance industry in Kenya is largely underdeveloped and generally encounters relatively weak equity which is extensionally projective to insurance brand (firms) in the industry. Although this may not be a direct replica of banking industry-which is the main focus of this study- banking industry in Kenya and by extension other developing countries encounter brand equity building challenges that may largely impact on the exponential growth of specific brands (Banking firms) in not only Kenya but also other developing counties in the global market.

Product category equity in the market may have a significant influence on specific brands within the varied market segments. A new brand in a new product category may encounter surmountable customer based brand equity building challenges. Further research is recommended on product category brand equity (PCBE) building shorten what this research considers as Brand Equity Maturity Span (BEMS) being the duration within which a brand is launched into either existing or new market and the time customers highly engage with the brand i.e. customers highly resonate with the brand.

Product market performance is not only depended on customer based brand equity but also employee based brand equity. This research was dedicated into consideration of customer based brand equity and partially assessed the contribution of these additional spheres of brand equity. The researcher recommends further research relating to employee based brand equity as these are important internal customers in all organizations whether in manufacturing or service industry.

The research has also partially considered the synergetic effect of financial based brand equity towards enhancement of market brand performance. However, the researcher recommends investigation into the extent to which finance based brand equity contributes towards the aggregate brand performance in different market segments and economies.

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APPENDICES

APPENDIX I: Letter of Introduction

Peary Kilei Munyau

P.O Box 98640-80100

Mombasa.

Dear Sir/Madam,

Re: <u>Brand Equity and Brand market performance</u>

I am a doctoral student (Marketing) in the College of Human Resource Development at Jomo Kenyatta University of Agriculture and Technology. I am conducting a research study that examinesthe **Role of Customer-Based Brand Equity on Brand market performance in the Banking Sector in Kenya**.You have been selected by chance from all customers in your bank to assist in providing the required information.

Therefore, this letter is a request for your participation in filling out a customer survey questionnaire. It will take you approximately 15-20 minutes to complete thesurvey. Your participation in this study is voluntary. If you choose not to participate, there willbe no effect or harm to you, and I will not feel bad. However, your views are considered very important in this survey.

The survey questionnaire is anonymous and your responses will be kept confidential. Your name will not appear anywhere since you will not be asked to provide your name. The results of this study may be published but neitheryour name nor your individual answers will be known. Only the researcher will beallowed to see your information.

If you have any questions concerning the research study, please contact me on 0725-551-110 or Dr. Mike Iravo, the Director of JKUAT-Westlands Campus at**0729 958 003 / 020 4447769**.If you have agreed to participate, kindly request you to answer the questions in the attached questionnaire as honestly as possible as per the guidelines indicated.

Thank you for your time.

Sincerely,

Munyau, Peary Kilei

APPENDIX II: Survey Questionnaire for Individual Customers

Introduction

The purpose of this questionnaire is to collect data relating to the role of customer based brand equity and brand market performance in Kenya. You are hereby requested to complete this questionnaire. Note that any information given with respect to this request shall be treated with strict confidentiality and will only be used for the purpose of this research only.

Section 1: BIODATA

1. Name of your Bank____
2. You are:

   ☐ Male

   ☐ Female

3. In terms of nationality, you consider yourself as:

   ☐ Kenya

   ☐ Non-Kenyan

4. Which of the following best describes your age groups?

   ☐ Belo 25 Years

   ☐ 25-34 Years

   ☐ 35-44 years

☐ 45-54 Years

☐ 55 and above

5. What is the highest level of education that you have completed as at now?

☐ Primary level (KCPE)

☐ Secondary Level (KCSE)

☐ Diploma

☐ University Degree

☐ Other (Specify________________________________)

6. What type of account do you operate with this bank? (Tick all that apply)

☐ Savings Account

☐ Current Account

☐ Corporate Account

☐ Other (Specify__________________________________)

7. For how many years have you operated your account(s) above in this bank?

☐ Less than 1 year

- ☐ 1-5 years
- ☐ 6-10 years
- ☐ Over 10 years

8. Which of the following categories represents your average monthly income?

- ☐ Less than Ksh. 50,000
- ☐ Ksh. 50,000 - 100,000
- ☐ Ksh. 100,001- 150,000
- ☐ Ksh. 150,001 - 200,000
- ☐ More than Ksh. 200,000

SECTION 2: CUSTOMER BASED BRAND EQUITY

In this section, the statements provided in each table relate your views about your bank as it provides financial services to you as a customer. In each table, you are required to rate the extent to which you agree or disagree with each of the statements by circling the number in the column to the right of the table after carefully reading the statements.

Please note that some of the statements may appear similar, but your answer to each question will enable the researcher to scientifically assess the response and draw valid conclusions. Your responses should range from (1) strongly disagrees to (5) strongly agree.

A. Brand Awareness

The statements here relateto your ability to recall and recognize your bank and its associated features. Please indicate that extent to which you agree or disagree with each statement by circling one number on each line.

Key: Strongly disagrees (1); Disagrees (2); Not sure (3); Agrees (4); Strongly agrees (5)

Statement	**Strongly disagree**	⟷			**Strongly agree**
1. I have no difficulty in imagining this bank in my mind.	**1**	**2**	**3**	**4**	**5**
2. I can recognize this bank in comparison with other competing banks in the banking sector	**1**	**2**	**3**	**4**	**5**
3. This bank is the only bank I recall whenever I need to make a decision on financial/banking services	**1**	**2**	**3**	**4**	**5**
4. This bank comes up first in my mind when I need to make a decision on financial/banking services	**1**	**2**	**3**	**4**	**5**
5. I can quickly recall the symbol or logo of this bank	**1**	**2**	**3**	**4**	**5**
6. I know how the colours of my bank look like.	**1**	**2**	**3**	**4**	**5**
7. When I think of my favourite bank, this bank comes to mind quickly	**1**	**2**	**3**	**4**	**5**
8. When someone talks about banking, my favourite bank	**1**	**2**	**3**	**4**	**5**

always comes to mind.					
9. Among its competitors, I know what my bank looks like	**1**	**2**	**3**	**4**	**5**

B. Brand Association

In this part, the statements here relate to thoughts and feelings from your experience of interacting with your bank and its employees. Please indicate that extent to which you agree or disagree with each statement by circling one number on each line.

Key: Strongly disagrees (1); Disagrees (2); Not sure (3); Agrees (4); Strongly agrees (5)

Statement	**Strongly disagree**		↔		**Strongly agree**
1. The services offered by this bank are tailored so as to work in best interest of customers	**1**	**2**	**3**	**4**	**5**
2. The services provided by this bank present no risk to the customer	**1**	**2**	**3**	**4**	**5**
3. It is very unlikely for the services of this bank to be unreliable	**1**	**2**	**3**	**4**	**5**
4. In its status and style, this bank matches my personality.	**1**	**2**	**3**	**4**	**5**
5. This bank is well regarded by my friends.	**1**	**2**	**3**	**4**	**5**

6.	I am proud to be a customer of this bank	**1**	**2**	**3**	**4**	**5**
7.	I consider this bank and people who work for the bank are very trustworthy.	**1**	**2**	**3**	**4**	**5**
8.	The services of this bank are well priced.	**1**	**2**	**3**	**4**	**5**
9.	Considering what I pay for the services in this bank I get much more than my money's worth	**1**	**2**	**3**	**4**	**5**
10.	This bank and people who work for the bank have the expertise in offering the services	**1**	**2**	**3**	**4**	**5**
11.	This bank and people who work for the bank are socially responsible.	**1**	**2**	**3**	**4**	**5**
12.	This bank does not take advantage of customers.	**1**	**2**	**3**	**4**	**5**
13.	This bank is contributing to the development of the society	**1**	**2**	**3**	**4**	**5**
14.	This bank has a better image than its competitors	**1**	**2**	**3**	**4**	**5**

Perceived Quality

The statements here relate your views on the quality of services you get from your bank in the process of your interaction with the bank employees. Please indicate that extent to which you agree or disagree with each statement by circling one number on each line.

Key: Strongly disagrees (1); Disagrees (2); Not sure (3); Agrees (4); Strongly agrees (5)

Statement	**Strongly disagree**	↔			**Strongly agree**
1. When this bank promises to do something by a certain time, they do.	**1**	**2**	**3**	**4**	**5**
2. When a customer has a problem, the employees of this bank show sincere interest in solving it	**1**	**2**	**3**	**4**	**5**
3. This bank provides the service at the time they promise to do so	**1**	**2**	**3**	**4**	**5**
4. Employees of this bank tell customers exactly when services will be performed	**1**	**2**	**3**	**4**	**5**
5. Employees of this bank give prompt service to customers.	**1**	**2**	**3**	**4**	**5**
6. Employees of this bank are always willing to help customers.	**1**	**2**	**3**	**4**	**5**

7.	Employees of this bank are never too busy to respond to customers' requests	**1**	**2**	**3**	**4**	**5**
8.	The behaviour of employees of this bank instils confidence in me	**1**	**2**	**3**	**4**	**5**
9.	Employees of this bank give customers individual attention.	**1**	**2**	**3**	**4**	**5**
10.	Employees of this bank have the customers' best interest at heart.	**1**	**2**	**3**	**4**	**5**

C. Loyalty

In this part, the statements relate your feeling about your relationship with the bank. Please indicate that extent to which you agree or disagree with each statement by circling one number on each line.

Key: Strongly disagrees (1); Disagrees (2); Not sure (3); Agrees (4); Strongly agrees (5)

Statement		**Strongly disagree**	←		→	**Strongly agree**
1.	After using the services of this bank, I grow fond of it.	**1**	**2**	**3**	**4**	**5**
2.	I will definitely use the services of this bank again.	**1**	**2**	**3**	**4**	**5**
3.	I will definitely use the services of this bank although their price is higher than the other bank(s) that offer	**1**	**2**	**3**	**4**	**5**

similar benefits.					
4. I will not use the services of other banks when the service of this bank are available in town	**1**	**2**	**3**	**4**	**5**
5. I consider myself loyal to this bank.	**1**	**2**	**3**	**4**	**5**
6. I would recommend my this bank to others.	**1**	**2**	**3**	**4**	**5**
7. I am willing to buy items with this bank's logo or name on it.	**1**	**2**	**3**	**4**	**5**
8. I really identify with other customers of my bank	**1**	**2**	**3**	**4**	**5**
9. I feel like I almost belong to a club with other customers of this bank	**1**	**2**	**3**	**4**	**5**
10. I feel a deep connection with other customers of my bank	**1**	**2**	**3**	**4**	**5**
11. I am willing to engage in social activities with other customers of my bank	**1**	**2**	**3**	**4**	**5**
12. I like to visit my bank's website.	**1**	**2**	**3**	**4**	**5**
13. I regularly seek news and information regarding my bank.	**1**	**2**	**3**	**4**	**5**
14. I really like to talk about my bank with others	**1**	**2**	**3**	**4**	**5**
15. I am proud to have others know that I am a customer of this bank	**1**	**2**	**3**	**4**	**5**

16. I am always interested in learning more about my bank	**1**	**2**	**3**	**4**	**5**

SECTION 3: QUALITATIVE QUESTIONS

I would like to ask you more questions about what you feel, in your own words about your bank.

1. What would you say would make you want to continue banking with this bank even if other banks were to provide services at a lower cost than your bank?

____
____
____

2. When you think about this bank, what are the thoughts that come to your mind?

____
____
____

3. What would make you feel that you know your bank better than others and you can easily recognize it from other banks? Why?

____
____
____

4. What do you think about the quality of services offered by your bank? How important is this to you?

5. Would you say you have a strong attachment to your bank? Please explain

Thank you for your participation in this survey

APPENDIX III: Bank Branch Manager's Questionnaire

Introduction

The purpose of this questionnaire is to collect data relating to the role of customer based brand equity and brand market performance in Kenya. I hereby kindly requested you to complete this questionnaire to enable me get the relevant data for this research. Kindly note that any information given with respect to this request shall be treated with strict confidentiality and will only be used for the purpose of this research only.

Section 1: BIODATA

1. Name of your Bank____
2. A.1. Your gender

   ☐ Male

   ☐ Female

3. In terms of nationality, you consider yourself as:

   ☐ Kenya

   ☐ Non-Kenyan

4. Which of the following best describes your age groups?

   ☐ Belo 25 Years

   ☐ 25-34 Years

   ☐ 35-44 years

☐ 45-54 Years

☐ 55 and above

5. What is the highest level of education that you have completed as at now?

☐ Secondary Level (KCSE)

☐ Diploma

☐ University Degree

☐ Masters and above________________________________)

A.3. What is your work experience (in years) with your current bank?

☐ Less than 1 year

☐ 1-5 years

☐ 6-10 years

☐ Over 10 years

SECTION 2: BRAND MARKET PERFORMANCE

In this section, the statements provided in each table relate your views about your bank as it provides financial services to your customers. In each table, you are required to rate the extent to which you agree or disagree with each of the statements by circling the number in the column to the right of the table after carefully reading the statements.

Key: Strongly disagrees (1); Disagrees (2); Not sure (3); Agrees (4); Strongly agrees (5)

Statement	**Strongly disagree**	↔			**Strongly agree**
CM1. On average, customer loyalty in our organization has been significantly better than our main competitor	**1**	**2**	**3**	**4**	**5**
CM2. On average, relative customer satisfaction in our organization has been significantly better than our main competitor	**1**	**2**	**3**	**4**	**5**
FM3. On average, our market share (based on revenue) has been significantly better than our main competitor	**1**	**2**	**3**	**4**	**5**
FM4. On average, our net profit has been significantly better than our main competitor	**1**	**2**	**3**	**4**	**5**
CM5. On average, our company reputation has been significantly better than our main competitor	**1**	**2**	**3**	**4**	**5**
CM6. On average, customer awareness of our company and services has been significantly better than our main competitor	**1**	**2**	**3**	**4**	**5**

EM7. On average, employee satisfaction in our organization has been significantly better than our main competiton	**1**	**2**	**3**	**4**	**5**
EM8. On average, employee retention in our organization has been significantly better than our main competitor	**1**	**2**	**3**	**4**	**5**

APPENDIX IV(a):Reliability Item-Total Statistics for Brand Awareness

Measurement Scale (n=40)

	Item-Total Statistics				
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BAW_1	I have no difficulty in imagining this bank in my mind	32.68	14.225	.476	.780
BAW_2	I can recognize this bank in comparison with other competing banks in the banking sector	32.68	14.584	.598	.761
BAW_3	This bank is the only bank I recall whenever I need to make a decision on financial/banking services	32.40	14.554	.546	.767
BAW_4	This bank comes up first in my mind when I need make a decision on financial/banking services	32.58	16.507	.433	.784
BAW_5	I can quickly recall the symbol or logo of this bank	32.50	16.667	.336	.806
BAW_6	I know how the colours of my bank look like	32.50	15.179	.538	.769
BAW_7	When i think of my favourite bank, this bank comes to mind quickly	32.43	15.430	.565	.768

BAW_8	When someone talks about banking, my favourite bank always comes to my mind	32.45	14.408	.592	.761
BAW_9	Among its competitors, I know what my bank looks like	32.60	14.503	.462	.781

APPENDIX IV(b): Reliability Item-Total Statistics for Brand Associations

Measurement Scale (n=40)

	Item-Total Statistics				
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BAS_1	In its status and style, this bank matches my personality.	36.68	23.199	.535	.856
BAS_2	This bank is well regarded by my friends.	36.60	23.426	.459	.862
BAS_3	I am proud to be a customer of this bank	36.63	21.881	.581	.853
BAS_4	I consider this bank and people who work for the bank are very trustworthy.	36.63	22.035	.615	.849
BAS_5	The services of this bank are well priced.	36.80	22.164	.493	.862
BAS_6	This bank and people who work for the bank have the expertise in offering the services	36.50	22.974	.541	.856
BAS_7	This bank and people who work for the bank are socially responsible	36.63	21.830	.645	.847
BAS_8	This bank does not take advantage of customers.	36.58	21.943	.666	.845

BAS_9	This bank is contributing to the development of the society	36.55	22.203	.731	.842
BAS_10	This bank has a better image than its competitors	36.50	23.641	.590	.853

APPENDIX IV(c): Reliability Item-Total Statistics for Perceived Quality

Measurement Scale (n=40)

	Item-Total Statistics				
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PQ_1	When a customer has a problem,the employees of this bank show sincere interest in solving it	31.53	17.846	.439	.826
PQ_2	This bank provides the service at the time they promise to do so	31.38	17.881	.544	.815
PQ_3	Employees of this bank tell the customers exactly when services will be performed	31.38	19.010	.378	.841
PQ_4	Employees of this bank give prompt service to customers.	31.50	17.538	.539	.815
PQ_5	Employees of this bank are always willing to help customers	31.65	16.028	.718	.794
PQ_6	Employees of this bank are never too busy to respond to customers requests	31.53	19.076	.360	.843
PQ_7	The behaviour of employees of this bank instills confidence in me	31.80	16.523	.554	.813
PQ_8	Employees of this bank give customers individual attention	31.73	14.204	.866	.769

PQ_9	Employees of this bank have the customers best interest at heart	31.53	16.410	.653	.801

APPENDIX IV(d): Reliability Item-Total Statistics for Brand Loyalty

Measurement Scale (n=40)

	Item-Total Statistics				
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BLY_1	After using the services of this bank, I grow fond of it.	47.88	61.087	.409	.913
BLY_2	I will definitely use the services of this bank again.	47.70	63.087	.484	.906
BLY_3	I will definitely use the services of this bank although their price is higher than the other bank(s) that offer similar benefits.	47.78	58.794	.685	.898
BLY_4	I will not use the services of other banks when the service of this bank are available in town	47.75	65.167	.310	.912
BLY_5	I really identify with other customers of my bank	47.93	59.097	.644	.900
BLY_6	I feel like I almost belong to a club with other customers of this bank	48.03	57.410	.735	.896
BLY_7	I feel a deep connection with other customers of my bank	48.05	56.869	.791	.893
BLY_8	I am willing to engage in social activities with other customers of my bank	47.85	59.464	.693	.898

BLY_9	I like to visit my bank's website.	48.08	60.071	.640	.900
BLY_10	I regularly seek news and information regarding my bank	47.93	58.071	.742	.896
BLY_11	I really like to talk about my bank with others	47.58	60.661	.618	.901
BLY_12	I am proud to have others know that I am a customer of this bank	47.65	60.336	.667	.899
BLY_13	I am always interested in learning more about my bank	47.73	58.871	.732	.896

APPENDIX V: Factor Loading Matrix

	Structure Matrix									
		Factor								
		Brand recognition	Active engagement	Brand recall	Perceived quality	Organizational Associations	Trustworthiness	Behavioural loyalty	Premium	Sense of community
BAW_1	I have no difficulty in imagining this bank in my mind.	.825								
BAW_2	I can recognize this bank in comparison with other competing banks in the banking sector	.816								

BAW_3	This bank is the only bank I recall whenever I need to make a decision on financial/banking services	.703									
BLY_12	I really like to talk about my bank with others		.830								
BLY_13	I am proud to have others know that I am a customer of this bank		.823								
BLY_11	I am always interested in learning more about my bank		.708								
BAW_7	When someone talks about banking, my favourite bank always comes to mind.			.839							
BAW_6	When I think of my favourite bank, this bank comes to mind quickly			.818							
BAW_5	I know how the colours of my bank look like			.672							

BAW_8	Among its competitors, I know what my bank looks like			.653						
PQ_8	The behaviour of employees of this bank instils confidence in me				.804					
PQ_9	Employees of this bank give customers individual attention.				.710					
PQ_7	Employees of this bank are never too busy to respond to customers' requests				.689					
PQ_6	Employees of this bank are always willing to help customers				.550					
BAS_8	This bank does not take advantage of customers.					.820				
BAS_7	This bank and people who work for the bank are socially responsible.					.745				

BAS_9	This bank is contributing to the development of the society					.656				
BAS_10	This bank has a better image than its competitors					.599				
BAS_6	This bank and people who work for the bank have the expertise in offering the services					.556				
BAS_3	I am proud to be a customer of this bank						.782			
BAS_4	I consider this bank and people who work for the bank are very trustworthy.						.777			
BAS_5	The services of this bank are well priced.						.634			
BAS_1	In its status and style, this bank matches my personality.						.516			
BLY_5	I would recommend this bank to others.							.824		

BLY_4	I consider myself loyal to this bank.							.767		
BLY_6	I am willing to buy items with this bank's logo or name on it.							.732		
BLY_2	I will definitely use the services of this bank again.								.885	
BLY_1	After using the services of this bank, I grow fond of it.								.833	
BLY_3	I will definitely use the services of this bank although their price is higher than the other bank(s) that offer similar benefits.								.668	
BLY_9	I really identify with other customers of my bank									.820
BLY_10	I regularly seek news and information regarding my bank.									.695
BLY_8	I am willing to engage in social activities with other customers of my bank									.672

	Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.

APPENDIX VI (a): R-Matrix (BAW, BAS and PQ)

		BAW_1	BAW_2	BAW_3	BAW_5	BAW_6	BAW_7	BAW_8	BAS_1	BAS_3	BAS_4	BAS_5	BAS_7	BAS_8	BAS_9	BAS_10	PQ_2	PQ_5	PQ_6	PQ_7	PQ_8	PQ_10
BAW_1	Pearson's r	1	.776**	.538**	.205**	.242**	.299**	.282**	.189**	.175**	.298**	.373**	.386**	.374**	.321**	.302**	.425**	.206**	.219**	.281**	.297**	.242**
	p-value		.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_2	Pearson's r	.776**	1	.602**	.277**	.293**	.331**	.349**	.178**	.199**	.270**	.386**	.315**	.397**	.331**	.338**	.371**	.214**	.219**	.352**	.324**	.188**
	p-value	.000		.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_3	Pearson's r	.538**	.602**	1	.186**	.274**	.246**	.301**	.246**	.272**	.332**	.324**	.429**	.402**	.372**	.432**	.307**	.209**	.252**	.279**	.308**	.301**
	p-value	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_5	Pearson's r	.205**	.277**	.186**	1	.647**	.495**	.355**	.282**	.248**	.196**	.271**	.243**	.277**	.272**	.250**	.197**	.324**	.342**	.316**	.215**	.233**
	p-value	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_6	Pearson's r	.242**	.293**	.274**	.647**	1	.665**	.443**	.356**	.353**	.318**	.398**	.279**	.321**	.361**	.311**	.235**	.308**	.275**	.240**	.257**	.243**
	p-value	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_7	Pearson's r	.299**	.331**	.246**	.495**	.665**	1	.669**	.366**	.361**	.341**	.391**	.268**	.367**	.380**	.336**	.353**	.252**	.245**	.297**	.362**	.285**
	p-value	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_8	Pearson's r	.282**	.349**	.301**	.355**	.443**	.669**	1	.329**	.315**	.313**	.414**	.325**	.363**	.319**	.335**	.321**	.255**	.281**	.307**	.361**	.381**
	p-value	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_1	Pearson's r	.189**	.178**	.246**	.282**	.356**	.366**	.329**	1	.464**	.317**	.281**	.231**	.322**	.366**	.311**	.212	.289	.298	.210	.286	.200*

																	**	**	**	**	**	*
	p-value	.000	.001	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_3	Pearson's r	.175**	.199**	.272**	.248**	.353**	.361**	.315**	.464**	1	.592**	.435**	.274**	.290**	.412**	.345**	.148**	.315**	.220**	.198**	.263**	.169**
	p-value	.001	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.006	.000	.000	.000	.000	.002
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_4	Pearson's r	.298**	.270**	.332**	.196**	.318**	.341**	.313**	.317**	.592**	1	.630**	.293**	.264**	.385**	.250**	.298**	.289**	.237**	.236**	.280**	.144**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.007
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_5	Pearson's r	.373**	.386**	.324**	.271**	.398**	.391**	.414**	.281**	.435**	.630**	1	.352**	.352**	.359**	.262**	.290**	.325**	.279**	.278**	.339**	.180**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.001
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_7	Pearson's r	.386**	.315**	.429**	.243**	.279**	.268**	.325**	.231**	.274**	.293**	.352**	1	.632**	.408**	.380**	.238**	.281**	.321**	.392**	.344**	.352**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_8	Pearson's r	.374**	.397**	.402**	.277**	.321**	.367**	.363**	.322**	.290**	.264**	.352**	.632**	1	.579**	.481**	.201**	.322**	.300**	.386**	.354**	.310**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_9	Pearson's r	.321**	.331**	.372**	.272**	.361**	.380**	.319**	.366**	.412**	.385**	.359**	.408**	.579**	1	.537**	.277**	.401**	.409**	.381**	.349**	.239**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_10	Pearson's r	.302**	.338**	.432**	.250**	.311**	.336**	.335**	.311**	.345**	.250**	.262**	.380**	.481**	.537**	1	.268**	.292**	.314**	.371**	.327**	.289**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
PQ_2	Pearson's r	.425**	.371**	.307**	.197**	.235**	.353**	.321**	.212**	.148**	.298**	.290**	.238**	.201**	.277**	.268**	1	.097	.217**	.264**	.332**	.338**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.006	.000	.000	.000	.000	.000	.000		.072	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
PQ_5	Pearson's r	.206**	.214**	.209**	.324**	.308**	.252**	.255**	.289**	.315**	.289**	.325**	.281**	.322**	.401**	.292**	.097	1	.613**	.390**	.252**	.113*
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.072		.000	.000	.000	.035
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
PQ_6	Pearson's r	.219**	.219**	.252**	.342**	.275**	.245**	.281**	.298**	.220**	.237**	.279**	.321**	.300**	.409**	.314**	.217	.613	1	.593	.426	.148*

																**	**		**	**	*
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.006
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
PQ_7	Pearson's r	.281**	.352**	.279**	.316**	.240**	.297**	.307**	.210**	.198**	.236**	.278**	.392**	.386**	.381**	.371**	.264**	.390**	.593**	1	.553**	.247**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
PQ_8	Pearson's r	.297**	.324**	.308**	.215**	.257**	.362**	.361**	.286**	.263**	.280**	.339**	.344**	.354**	.349**	.327**	.332**	.252**	.426**	.553**	1	.491**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347

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

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

APPENDIX VI (b): R-Matrix (BAW, BAS and BLY)

		BAW_1	BAW_2	BAW_3	BAW_5	BAW_6	BAW_7	BAW_8	BAS_1	BAS_3	BAS_4	BAS_5	BAS_7	BAS_8	BAS_9	BAS_10	BLY_1	BLY_2	BLY_3	BLY_4	BLY_5	BLY_6	BLY_7	BLY_8	BLY_9	BLY_10	BLY_11	BLY_12	BLY_13
BAW_1	Pearson's r	1	.776**	.538**	.205**	.242**	.299**	.282**	.189**	.175**	.298**	.373**	.386**	.374**	.321**	.302**	.529**	.497**	.360**	.324**	.355**	.296**	.195**	.316**	.355**	.265**	.272**	.279**	.254**
	p-value		.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_2	Pearson's r	.776**	1	.602**	.277**	.293**	.331**	.349**	.178**	.199**	.270**	.386**	.315**	.397**	.331**	.338**	.444**	.495**	.370**	.295**	.330**	.307**	.181**	.288**	.331**	.207**	.250**	.340**	.300**
	p-value	.000		.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_3	Pearson's r	.538**	.602**	1	.186**	.274**	.246**	.301**	.246**	.272**	.332**	.324**	.429**	.402**	.372**	.432**	.398**	.424**	.393**	.285**	.310**	.308**	.332**	.254**	.310**	.350**	.278**	.300**	.358**
	p-value	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_5	Pearson's r	.205**	.277**	.186**	1	.647**	.495**	.355**	.282**	.248**	.196**	.271**	.243**	.277**	.272**	.250**	.253**	.312**	.203**	.310**	.246**	.184**	.124*	.223**	.198**	.188**	.317**	.389**	.378**
	p-value	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.021	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347

BAW_6	Pearson's r	.242**	.293**	.274**	.647**	1	.665**	.443**	.356**	.353**	.318**	.398**	.279**	.321**	.361**	.311**	.303**	.387**	.330**	.362**	.330**	.294**	.218**	.284**	.325**	.271**	.332**	.349**	.339**
	p-value	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_7	Pearson's r	.299**	.331**	.246**	.495**	.665**	1	.669**	.366**	.361**	.341**	.391**	.268**	.367**	.380**	.336**	.352**	.440**	.370**	.415**	.333**	.263**	.197**	.357**	.372**	.259**	.390**	.399**	.392**
	p-value	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAW_8	Pearson's r	.282**	.349**	.301**	.355**	.443**	.669**	1	.329**	.315**	.313**	.414**	.325**	.363**	.319**	.335**	.350**	.427**	.387**	.336**	.306**	.263**	.266**	.337**	.269**	.201**	.277**	.364**	.392**
	p-value	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_1	Pearson's r	.189**	.178**	.246**	.282**	.356**	.366**	.329**	1	.464**	.317**	.281**	.231**	.322**	.366**	.311**	.249**	.368**	.330**	.320**	.274**	.228**	.197**	.244**	.321**	.248**	.285**	.276**	.257**
	p-value	.000	.001	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_3	Pearson's r	.175**	.199**	.272**	.248**	.353**	.361**	.315**	.464**	1	.592**	.435**	.274**	.290**	.412**	.345**	.266**	.386**	.317**	.276**	.324**	.237**	.272**	.254**	.280**	.274**	.162**	.247**	.287**
	p-value	.001	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.002	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347

BAS_4	Pearson's r	.298**	.270**	.332**	.196**	.318**	.341**	.313**	.317**	.592**	1	.630**	.293**	.264**	.385**	.250**	.360**	.391**	.338**	.368**	.388**	.317**	.326**	.309**	.305**	.312**	.278**	.206**	.269**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_5	Pearson's r	.373**	.386**	.324**	.271**	.398**	.391**	.414**	.281**	.435**	.630**	1	.352**	.352**	.359**	.262**	.436**	.502**	.392**	.385**	.370**	.305**	.257**	.366**	.348**	.276**	.293**	.265**	.251**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_7	Pearson's r	.386**	.315**	.429**	.243**	.279**	.268**	.325**	.231**	.274**	.293**	.352**	1	.632**	.408**	.380**	.358**	.366**	.357**	.329**	.387**	.285**	.325**	.275**	.285**	.312**	.237**	.270**	.287**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_8	Pearson's r	.374**	.397**	.402**	.277**	.321**	.367**	.363**	.322**	.290**	.264**	.352**	.632**	1	.579**	.481**	.349**	.392**	.410**	.372**	.393**	.309**	.263**	.289**	.347**	.274**	.308**	.352**	.344**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BAS_9	Pearson's r	.321**	.331**	.372**	.272**	.361**	.380**	.319**	.366**	.412**	.385**	.359**	.408**	.579**	1	.537**	.364**	.450**	.338**	.421**	.378**	.337**	.235**	.270**	.282**	.238**	.328**	.340**	.400**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347

BAS_10	Pearson's r	.302**	.338**	.432**	.250**	.311**	.336**	.335**	.311**	.345**	.250**	.262**	.380**	.481**	.537**	1	.324**	.391**	.340**	.318**	.286**	.291**	.288**	.199**	.216**	.248**	.376**	.384**	.443**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_1	Pearson's r	.529**	.444**	.398**	.253**	.303**	.352**	.350**	.249**	.266**	.360**	.436**	.358**	.349**	.364**	.324**	1	.768**	.584**	.498**	.394**	.374**	.274**	.376**	.359**	.298**	.319**	.401**	.420**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_2	Pearson's r	.497**	.495**	.424**	.312**	.387**	.440**	.427**	.368**	.386**	.391**	.502**	.366**	.392**	.450**	.391**	.768**	1	.624**	.524**	.432**	.362**	.285**	.403**	.357**	.310**	.320**	.461**	.434**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_3	Pearson's r	.360**	.370**	.393**	.203**	.330**	.370**	.387**	.330**	.317**	.338**	.392**	.357**	.410**	.338**	.340**	.584**	.624**	1	.477**	.311**	.314**	.295**	.320**	.335**	.288**	.406**	.373**	.398**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_4	Pearson's r	.324**	.295**	.285**	.310**	.362**	.415**	.336**	.320**	.276**	.368**	.385**	.329**	.372**	.421**	.318**	.498**	.524**	.477**	1	.642**	.522**	.363**	.331**	.304**	.252**	.373**	.336**	.408**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347

BLY_5	Pearson's r	.355**	.330**	.310**	.246**	.330**	.333**	.306**	.274**	.324**	.388**	.370**	.387**	.393**	.378**	.286**	.394**	.432**	.311**	.642**	1	.646**	.478**	.329**	.307**	.258**	.257**	.256**	.280**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_6	Pearson's r	.296**	.307**	.308**	.184**	.294**	.263**	.263**	.228**	.237**	.317**	.305**	.285**	.309**	.337**	.291**	.374**	.362**	.314**	.522**	.646**	1	.646**	.366**	.228**	.228**	.254**	.214**	.303**
	p-value	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_7	Pearson's r	.195**	.181**	.332**	.124*	.218**	.197**	.266**	.197**	.272**	.326**	.257**	.325**	.263**	.235**	.288**	.274**	.285**	.295**	.363**	.478**	.646**	1	.352**	.225**	.247**	.175**	.092	.157**
	p-value	.000	.001	.000	.021	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.001	.086	.003
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_8	Pearson's r	.316**	.288**	.254**	.223**	.284**	.357**	.337**	.244**	.254**	.309**	.366**	.275**	.289**	.270**	.199**	.376**	.403**	.320**	.331**	.329**	.366**	.352**	1	.607**	.399**	.261**	.158**	.201**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.003	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_9	Pearson's r	.355**	.331**	.310**	.198**	.325**	.372**	.269**	.321**	.280**	.305**	.348**	.285**	.347**	.282**	.216**	.359**	.357**	.335**	.304**	.307**	.228**	.225**	.607**	1	.575**	.409**	.267**	.254**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347

BLY_10	Pearson's r	.265**	.207**	.350**	.188**	.271**	.259**	.201**	.248**	.274**	.312**	.276**	.312**	.274**	.238**	.248**	.298**	.310**	.288**	.252**	.258**	.228**	.247**	.399**	.575**	1	.489**	.417**	.407**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_11	Pearson's r	.272**	.250**	.278**	.317**	.332**	.390**	.277**	.285**	.162**	.278**	.293**	.237**	.308**	.328**	.376**	.319**	.320**	.406**	.373**	.257**	.254**	.175**	.261**	.409**	.489**	1	.629**	.560**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000		.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_12	Pearson's r	.279**	.340**	.300**	.389**	.349**	.399**	.364**	.276**	.247**	.206**	.265**	.270**	.352**	.340**	.384**	.401**	.461**	.373**	.336**	.256**	.214**	.092	.158**	.267**	.417**	.629**	1	.743**
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.086	.003	.000	.000	.000		.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_13	Pearson's r	.254**	.300**	.358**	.378**	.339**	.392**	.392**	.257**	.287**	.269**	.251**	.287**	.344**	.400**	.443**	.420**	.434**	.398**	.408**	.280**	.303**	.157**	.201**	.254**	.407**	.560**	.743**	1
	p-value	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.003	.000	.000	.000	.000	.000	
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347

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

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

APPENDIX VI (c): R-Matrix (PQ and BLY)

		PQ_2	PQ_5	PQ_6	PQ_7	PQ_8	PQ_10	BLY_1	BLY_2	BLY_3	BLY_4	BLY_5	BLY_6	BLY_7	BLY_8	BLY_9	BLY_10	BLY_11	BLY_12	BLY_13
PQ_2	Pearson Correlation	1	.097	.217**	.264**	.332**	.338**	.372**	.329**	.317**	.367**	.259**	.258**	.202**	.295**	.268**	.197**	.339**	.215**	.314**
	Sig. (2-tailed)		.072	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
PQ_5	Pearson Correlation	.097	1	.613**	.390**	.252**	.113*	.305**	.357**	.308**	.303**	.230**	.231**	.183**	.233**	.205**	.266**	.264**	.365**	.334**
	Sig. (2-tailed)	.072		.000	.000	.000	.035	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
PQ_6	Pearson Correlation	.217**	.613**	1	.593**	.426**	.148**	.287**	.292**	.321**	.436**	.305**	.319**	.223**	.221**	.212**	.183**	.373**	.362**	.388**
	Sig. (2-tailed)	.000	.000		.000	.000	.006	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
PQ_7	Pearson Correlation	.264**	.390**	.593**	1	.553**	.247**	.354**	.366**	.336**	.378**	.346**	.314**	.224**	.274**	.259**	.136*	.298**	.357**	.387**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.011	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
PQ_8	Pearson Correlation	.332**	.252**	.426**	.553**	1	.491**	.320**	.367**	.347**	.393**	.370**	.367**	.287**	.271**	.269**	.214**	.316**	.316**	.367**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_1	Pearson Correlation	.372**	.305**	.287**	.354**	.320**	.228**	1	.768**	.584**	.498**	.394**	.374**	.274**	.376**	.359**	.298**	.319**	.401**	.420**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347

BLY_2	Pearson Correlation	.329**	.357**	.292**	.366**	.367**	.228**	.768**	1	.624**	.524**	.432**	.362**	.285**	.403**	.357**	.310**	.320**	.461**	.434**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_3	Pearson Correlation	.317**	.308**	.321**	.336**	.347**	.320**	.584**	.624**	1	.477**	.311**	.314**	.295**	.320**	.335**	.288**	.406**	.373**	.398**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_4	Pearson Correlation	.367**	.303**	.436**	.378**	.393**	.212**	.498**	.524**	.477**	1	.642**	.522**	.363**	.331**	.304**	.252**	.373**	.336**	.408**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_5	Pearson Correlation	.259**	.230**	.305**	.346**	.370**	.188**	.394**	.432**	.311**	.642**	1	.646**	.478**	.329**	.307**	.258**	.257**	.256**	.280**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_6	Pearson Correlation	.258**	.231**	.319**	.314**	.367**	.259**	.374**	.362**	.314**	.522**	.646**	1	.646**	.366**	.228**	.228**	.254**	.214**	.303**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_7	Pearson Correlation	.202**	.183**	.223**	.224**	.287**	.230**	.274**	.285**	.295**	.363**	.478**	.646**	1	.352**	.225**	.247**	.175**	.092	.157**
	Sig. (2-tailed)	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.001	.086	.003
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_8	Pearson Correlation	.295**	.233**	.221**	.274**	.271**	.264**	.376**	.403**	.320**	.331**	.329**	.366**	.352**	1	.607**	.399**	.261**	.158**	.201**
	Sig. (2-	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.003	.000

	tailed)																			
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_9	Pearson Correlation	.268**	.205**	.212**	.259**	.269**	.197**	.359**	.357**	.335**	.304**	.307**	.228**	.225**	.607**	1	.575**	.409**	.267**	.254**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_10	Pearson Correlation	.197**	.266**	.183**	.136*	.214**	.276**	.298**	.310**	.288**	.252**	.258**	.228**	.247**	.399**	.575**	1	.489**	.417**	.407**
	Sig. (2-tailed)	.000	.000	.001	.011	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_11	Pearson Correlation	.339**	.264**	.373**	.298**	.316**	.234**	.319**	.320**	.406**	.373**	.257**	.254**	.175**	.261**	.409**	.489**	1	.629**	.560**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000		.000	.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_12	Pearson Correlation	.215**	.365**	.362**	.357**	.316**	.246**	.401**	.461**	.373**	.336**	.256**	.214**	.092	.158**	.267**	.417**	.629**	1	.743**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.086	.003	.000	.000	.000		.000
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347
BLY_13	Pearson Correlation	.314**	.334**	.388**	.387**	.367**	.315**	.420**	.434**	.398**	.408**	.280**	.303**	.157**	.201**	.254**	.407**	.560**	.743**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.003	.000	.000	.000	.000	.000	
	N	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347

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

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

APPENDIX VII: Anti-Image Correlation Matrix

	BAW_1	BAW_2	BAW_3	BAW_5	BAW_6	BAW_7	BAW_8	BAS_1	BAS_3	BAS_4	BAS_5	BAS_7	BAS_8	BAS_9	BAS_10
BAW_1	.869[a]	-.639	-.019	.044	.052	-.078	.090	-.031	.073	-.045	.011	-.156	.021	-.006	.004
BAW_2	-.639	.845[a]	-.341	-.116	.008	.024	-.090	.090	.005	.046	-.096	.177	-.089	.004	-.003
BAW_3	-.019	-.341	.935[a]	.072	-.058	.077	-.015	-.041	.011	-.086	.053	-.144	.002	-.015	-.149
BAW_5	.044	-.116	.072	.875[a]	-.481	-.060	.027	-.052	-.037	.039	.017	-.032	-.047	.077	.041
BAW_6	.052	.008	-.058	-.481	.887[a]	-.401	.061	-.047	-.015	.031	-.133	-.032	.052	-.064	-.026
BAW_7	-.078	.024	.077	-.060	-.401	.888[a]	-.503	-.004	-.062	-.038	.072	.070	-.041	-.049	.002
BAW_8	.090	-.090	-.015	.027	.061	-.503	.899[a]	-.069	.038	.005	-.134	-.071	-.016	.072	-.051
BAS_1	-.031	.090	-.041	-.052	-.047	-.004	-.069	.939[a]	-.256	-.002	.070	.060	-.072	-.039	-.035
BAS_3	.073	.005	.011	-.037	-.015	-.062	.038	-.256	.886[a]	-.406	-.037	-.026	.049	-.100	-.146
BAS_4	-.045	.046	-.086	.039	.031	-.038	.005	-.002	-.406	.883[a]	-.436	.002	.083	-.103	.096
BAS_5	.011	-.096	.053	.017	-.133	.072	-.134	.070	-.037	-.436	.928[a]	-.056	-.061	.030	.029
BAS_7	-.156	.177	-.144	-.032	-.032	.070	-.071	.060	-.026	.002	-.056	.909[a]	-.442	.037	-.019
BAS_8	.021	-.089	.002	-.047	.052	-.041	-.016	-.072	.049	.083	-.061	-.442	.907[a]	-.339	-.132
BAS_9	-.006	.004	-.015	.077	-.064	-.049	.072	-.039	-.100	-.103	.030	.037	-.339	.936[a]	-.221
BAS_10	.004	-.003	-.149	.041	-.026	.002	-.051	-.035	-.146	.096	.029	-.019	-.132	-.221	.948[a]
PQ_2	-.109	.052	-.168	-.034	-.071	.063	-.067	.012	.028	-.062	.054	-.085	.084	-.022	-.090
PQ_5	-.062	.098	-.041	-.135	-.001	.156	-.104	-.110	-.018	.052	-.066	-.046	.093	-.172	.048
PQ_6	.117	-.152	.074	-.083	.074	-.041	.065	.077	.065	-.062	.055	-.120	-.024	.001	-.111
PQ_7	.005	-.033	-.011	.108	.005	-.134	.055	-.036	-.015	.015	-.055	-.012	-.001	.014	-.010
PQ_8	-.051	.050	-.033	-.074	.066	.097	-.188	-.050	-.024	.035	-.029	-.032	-.006	-.008	.038
BLY_1	-.242	.130	-.007	-.025	.035	.020	.000	.077	.075	-.053	-.032	-.024	.025	.020	.013
BLY_2	-.003	-.098	-.006	-.020	.000	-.025	-.013	-.117	-.066	.071	-.141	.007	.096	-.136	-.050
BLY_3	.081	-.048	-.059	.159	-.090	.018	-.053	-.035	-.082	-.005	.021	-.016	-.156	.129	.035
BLY_4	.005	.045	.032	-.047	.034	-.123	.072	-.038	.099	-.042	-.020	.025	-.002	-.054	.008
BLY_5	-.072	.017	-.002	-.010	-.028	.037	-.048	.017	-.085	-.069	.020	-.101	-.062	.011	.035
BLY_6	.061	-.087	-.013	.101	-.111	.051	.023	-.016	.032	-.018	.018	.052	-.009	-.011	-.040
BLY_8	-.024	.028	.036	-.083	.067	-.047	-.102	.039	.005	-.008	-.049	-.007	.009	-.008	.016
BLY_9	.003	-.101	.029	.117	-.072	-.093	.088	-.116	-.052	.055	-.033	.065	-.107	.013	.085
BLY_10	-.033	.117	-.144	.014	-.027	.062	.035	.017	-.051	-.068	.021	-.127	.023	.053	.016
BLY_11	-.065	.066	.032	-.044	.031	-.131	.128	-.049	.225	-.113	-.063	.063	.041	-.031	-.158
BLY_12	.041	-.117	.058	-.043	-.013	-.022	-.035	-.024	-.054	.100	-.002	.005	-.078	.057	.027
BLY_13	.061	.026	-.079	-.095	.048	.012	-.107	.081	-.059	-.033	.094	.039	.023	-.078	-.086

a. Measures of Sampling Adequacy(MSA)

	PQ_2	PQ_5	PQ_6	PQ_7	PQ_8	BLY_1	BLY_2	BLY_3	BLY_4	BLY_5	BLY_6	BLY_8	BLY_9	BLY_10	BLY_11	BLY_12	BLY_13
BAW_1	-.109	-.062	.117	.005	-.051	-.242	-.003	.081	.005	-.072	.061	-.024	.003	-.033	-.065	.041	.061
BAW_2	.052	.098	-.152	-.033	.050	.130	-.098	-.048	.045	.017	-.087	.028	-.101	.117	.066	-.117	.026
BAW_3	-.168	-.041	.074	-.011	-.033	-.007	-.006	-.059	.032	-.002	-.013	.036	.029	-.144	.032	.058	-.079
BAW_5	-.034	-.135	-.083	.108	-.074	-.025	-.020	.159	-.047	-.010	.101	-.083	.117	.014	-.044	-.043	-.095
BAW_6	-.071	-.001	.074	.005	.066	.035	.000	-.090	.034	-.028	-.111	.067	-.072	-.027	.031	-.013	.048
BAW_7	.063	.156	-.041	-.134	.097	.020	-.025	.018	-.123	.037	.051	-.047	-.093	.062	-.131	-.022	.012
BAW_8	-.067	-.104	.065	.055	-.188	.000	-.013	-.053	.072	-.048	.023	-.102	.088	.035	.128	-.035	-.107
BAS_1	.012	-.110	.077	-.036	-.050	.077	-.117	-.035	-.038	.017	-.016	.039	-.116	.017	-.049	-.024	.081
BAS_3	.028	-.018	.065	-.015	-.024	.075	-.066	-.082	.099	-.085	.032	.005	-.052	-.051	.225	-.054	-.059
BAS_4	-.062	.052	-.062	.015	.035	-.053	.071	-.005	-.042	-.069	-.018	-.008	.055	-.068	-.113	.100	-.033
BAS_5	.054	-.066	.055	-.055	-.029	-.032	-.141	.021	-.020	.020	.018	-.049	-.033	.021	-.063	-.002	.094
BAS_7	-.085	-.046	-.120	-.012	-.032	-.024	.007	-.016	.025	-.101	.052	-.007	.065	-.127	.063	.005	.039
BAS_8	.084	.093	-.024	-.001	-.006	.025	.096	-.156	-.002	-.062	-.009	.009	-.107	.023	.041	-.078	.023
BAS_9	-.022	-.172	.001	.014	-.008	.020	-.136	.129	-.054	.011	-.011	-.008	.013	.053	-.031	.057	-.078
BAS_10	-.090	.048	-.111	-.010	.038	.013	-.050	.035	.008	.035	-.040	.016	.085	.016	-.158	.027	-.086
PQ_2	.943[a]	-.022	-.021	-.007	.025	-.027	.025	-.084	.046	.053	-.074	.002	-.127	-.036	-.022	.108	-.122
PQ_5	-.022	.881[a]	-.411	-.131	.164	.022	.099	-.062	-.179	.077	-.069	-.009	.007	.033	-.117	-.055	.003
PQ_6	-.021	-.411	.904[a]	-.221	-.126	-.058	-.017	-.004	.044	-.068	.031	-.051	-.073	.128	.066	-.047	-.046
PQ_7	-.007	-.131	-.221	.913[a]	-.481	.031	-.031	.039	-.029	-.030	-.062	.032	.040	-.043	.029	.032	-.064
PQ_8	.025	.164	-.126	-.481	.885[a]	.027	.032	-.109	.007	.024	-.046	-.041	-.075	.066	-.131	-.001	.013
BLY_1	-.027	.022	-.058	.031	.027	.919[a]	-.506	-.166	-.079	.040	-.090	-.007	-.083	.031	.043	-.025	-.088
BLY_2	.025	.099	-.017	-.031	.032	-.506	.918[a]	-.251	-.090	-.064	.067	-.117	.064	-.028	.137	-.177	.041
BLY_3	-.084	-.062	-.004	.039	-.109	-.166	-.251	.936[a]	-.158	.125	-.002	.009	.018	.030	-.185	.065	-.017
BLY_4	.046	-.179	.044	-.029	.007	-.079	-.090	-.158	.936[a]	-.398	-.085	-.001	-.004	.034	-.051	.086	-.117
BLY_5	.053	.077	-.068	-.030	.024	.040	-.064	.125	-.398	.898[a]	-.444	.054	-.074	-.013	.013	-.040	.084
BLY_6	-.074	-.069	.031	-.062	-.046	-.090	.067	-.002	-.085	-.444	.900[a]	-.211	.155	-.026	-.019	.066	-.077
BLY_8	.002	-.009	-.051	.032	-.041	-.007	-.117	.009	-.001	.054	-.211	.911[a]	-.416	-.101	.021	.122	.023
BLY_9	-.127	.007	-.073	.040	-.075	-.083	.064	.018	-.004	-.074	.155	-.416	.875[a]	-.365	-.133	.049	.061
BLY_10	-.036	.033	.128	-.043	.066	.031	-.028	.030	.034	-.013	-.026	-.101	-.365	.902[a]	-.182	-.133	-.104
BLY_11	-.022	-.117	.066	.029	-.131	.043	.137	-.185	-.051	.013	-.019	.021	-.133	-.182	.897[a]	-.352	-.074
BLY_12	.108	-.055	-.047	.032	-.001	-.025	-.177	.065	.086	-.040	.066	.122	.049	-.133	-.352	.883[a]	-.510
BLY_13	-.122	.003	-.046	-.064	.013	-.088	.041	-.017	-.117	.084	-.077	.023	.061	-.104	-.074	-.510	.914[a]

a. Measures of Sampling Adequacy(MSA)

APPENDIX VIII (a): EFA Eigen Values and Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.020	44.669	44.669	4.020	44.669	44.669	2.429	26.984	26.984
2	1.592	17.686	62.355	1.592	17.686	62.355	2.392	26.580	53.564
3	1.178	13.087	75.442	1.178	13.087	75.442	1.969	21.879	75.442
4	.660	7.337	82.779						
5	.492	5.464	88.243						
6	.352	3.908	92.151						
7	.280	3.115	95.266						
8	.221	2.459	97.726						
9	.205	2.274	100.000						

Extraction Method: Principal Component Analysis.

APPENDIX VIII (b): SEM Results for Brand Awareness

Squared Multiple Correlations: (Group number 1 - Default model)

ITEM	Estimate
BASQ8	.248
BASQ7	.209
BAW_2	.757
BAW_1	.753
BAW_8	.483
BAW_7	.764
BAW_6	.594
BAW_5	.395

APPENDIX XIII(d): Modification Indices - Regression Weights

			M.I.	Par Change
BASQ8	<---	BRECALL	16.011	.322
BASQ8	<---	BASQ7	78.425	.398
BASQ8	<---	BAW_8	14.154	.158
BASQ8	<---	BAW_7	14.147	.165
BASQ8	<---	BAW_6	11.013	.150
BASQ8	<---	BAW_5	7.771	.131
BASQ7	<---	BRECALL	6.952	.230
BASQ7	<---	BASQ8	73.955	.443
BASQ7	<---	BAW_8	10.179	.145
BASQ7	<---	BAW_6	6.948	.129
BASQ7	<---	BAW_5	5.068	.115
BAW_2	<---	BASQ7	16.207	-.139
BAW_1	<---	BRECALL	6.536	-.206
BAW_1	<---	BASQ8	7.647	-.132
BAW_1	<---	BAW_8	5.876	-.102
BAW_1	<---	BAW_6	6.214	-.113
BAW_1	<---	BAW_5	6.801	-.123
BAW_8	<---	BASQ8	5.323	.108
BAW_8	<---	BASQ7	7.232	.119
BAW_8	<---	BAW_6	6.587	-.114
BAW_8	<---	BAW_5	5.185	-.105
BAW_7	<---	BAW_8	9.568	.103
BAW_7	<---	BAW_5	7.667	-.103
BAW_6	<---	BAW_8	9.105	-.107
BAW_6	<---	BAW_5	27.968	.210

			M.I.	Par Change
BAW_5	<---	BAW_8	4.245	-.080
BAW_5	<---	BAW_6	16.566	.171

APPENDIX VIII(d): Brand Awareness Sub-Model Fit Test

BRAND RECALL

Estimates , Scalar Estimates , Maximum Likelihood Estimates and Regression Weights.

			Estimate	S.E.	C.R.	P	Label
BAW_1	<---	BRANDRECALL	1.000				
BAW_2	<---	BRANDRECALL	.834	.067	12.413	***	
BAWQ7	<---	BRANDRECALL	.362	.051	7.094	***	
BAWQ8	<---	BRANDRECALL	.383	.053	7.215	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
BAW_1	<---	BRANDRECALL	.840
BAW_2	<---	BRANDRECALL	.915
BAWQ7	<---	BRANDRECALL	.392
BAWQ8	<---	BRANDRECALL	.399

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label

	Estimate	S.E.	C.R.	P	Label
BRANDRECALL	1.265	.158	8.018	***	
e1	.526	.098	5.384	***	
e2	.171	.063	2.709	.007	
e3	.910	.071	12.826	***	
e4	.980	.077	12.813	***	

Matrices (Group number 1 - Default model)

Residual Covariances (Group number 1 - Default model)

	BAWQ8	BAWQ7	BAW_2	BAW_1
BAWQ8	.000			
BAWQ7	.574	.000		
BAW_2	-.017	-.029	.000	
BAW_1	-.077	-.043	.010	.000

Standardized Residual Covariances (Group number 1 - Default model)

	BAWQ8	BAWQ7	BAW_2	BAW_1
BAWQ8	.000			
BAWQ7	9.416	.000		
BAW_2	-.267	-.484	.000	
BAW_1	-.936	-.542	.103	.000

Factor Score Weights (Group number 1 - Default model)

	BAWQ8	BAWQ7	BAW_2	BAW_1
BRANDRECALL	.055	.056	.691	.270

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

	M.I.	Par Change
e3 <--> e4	133.062	.598
e2 <--> e3	4.489	-.069
e1 <--> e4	5.471	-.106

Variances: (Group number 1 - Default model)

M.I.	Par Change

Regression Weights: (Group number 1 - Default model)

	M.I.	Par Change
BAWQ8 <--- BAWQ7	110.324	.545
BAWQ7 <--- BAWQ8	109.590	.502
BAW_1 <--- BAWQ8	4.540	-.090

Minimization History (Default model)

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	2		-.294	9999.000	596.454	0	9999.000
1	e	1		-.154	1.310	280.590	20	.590
2	e	0	45.707		.454	186.682	5	.760
3	e	0	20.535		.317	169.264	2	.000
4	e	0	19.423		.113	165.513	1	1.071
5	e	0	20.858		.027	165.431	1	1.025
6	e	0	20.999		.001	165.430	1	1.001
7	e	0	20.999		.000	165.430	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	8	165.430	2	.000	82.715
Saturated model	10	.000	0		
Independence model	4	577.886	6	.000	96.314

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.184	.836	.180	.167

Model	RMR	GFI	AGFI	PGFI
Saturated model	.000	1.000		
Independence model	.480	.580	.299	.348

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.714	.141	.716	.143	.714
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.333	.238	.238
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	163.430	124.887	209.385
Saturated model	.000	.000	.000
Independence model	571.886	496.670	654.504

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.478	.472	.361	.605
Saturated model	.000	.000	.000	.000
Independence model	1.670	1.653	1.435	1.892

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.486	.425	.550	.000
Independence model	.525	.489	.561	.000

AIC

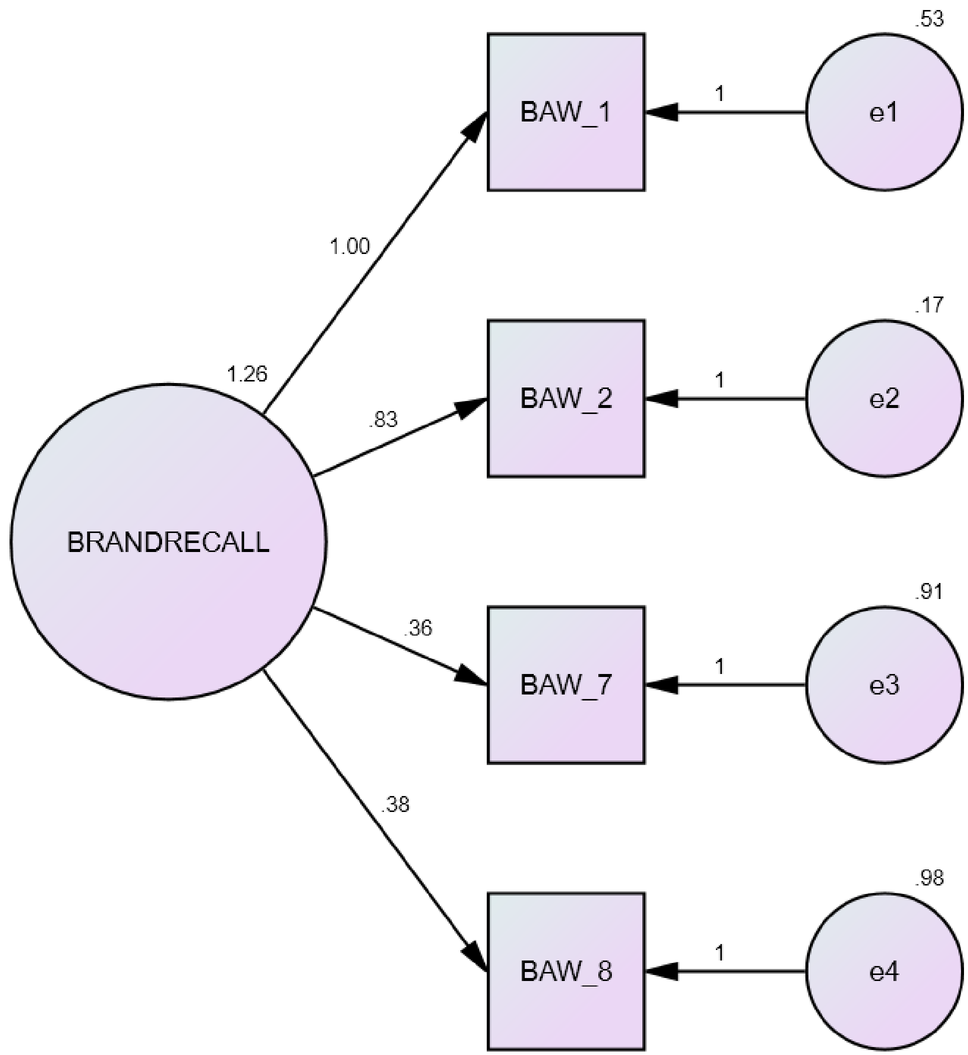
Model	AIC	BCC	BIC	CAIC
Default model	181.430	181.665	212.225	220.225
Saturated model	20.000	20.293	58.493	68.493
Independence model	585.886	586.004	601.284	605.284

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.524	.413	.657	.525
Saturated model	.058	.058	.058	.059
Independence model	1.693	1.476	1.932	1.694

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	13	20
Independence model	8	11


BRANDRECALL
1.26
1.00
.83
.36
.38
BAW_1
BAW_2
BAW_7
BAW_8
1
1
1
1
e1
e2
e3
e4
.53
.17
.91
.98

APPENDIX IX: Brand Recall Sub-Model Fitness Test

Estimates , Scalar Estimates ,Maximum Likelihood Estimates and Regression Weights.

	Estimate	S.E.	C.R.	P	Label
BAW_1 <--- BRANDRECALL	1.000				
BAW_2 <--- BRANDRECALL	.949	.114	8.304	***	
BAWQ8 <--- BRANDRECALL	.363	.054	6.673	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
BAW_1 <--- BRANDRECALL	.791
BAW_2 <--- BRANDRECALL	.981
BAWQ8 <--- BRANDRECALL	.356

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
BRANDRECALL	1.121	.179	6.273	***	
e1	.670	.136	4.910	***	
e2	.041	.114	.356	.722	

	Estimate	S.E.	C.R.	P	Label
e4	1.018	.079	12.857	***	

Matrices and Residual Covariances

	BAWQ8	BAW_2	BAW_1
BAWQ8	.000		
BAW_2	.000	.000	
BAW_1	.000	.000	.000

Standardized Residual Covariances (Group number 1 - Default model)

	BAWQ8	BAW_2	BAW_1
BAWQ8	.000		
BAW_2	.000	.000	
BAW_1	.000	.000	.000

Factor Score Weights (Group number 1 - Default model)

	BAWQ8	BAW_2	BAW_1
BRANDRECALL	.014	.946	.060

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	2		-.231	9999.000	395.020	0	9999.000
1	e	1		-.092	1.113	111.550	20	.775
2	e	0	42.372		.357	16.423	5	.865
3	e	0	30.679		.353	4.518	2	.000
4	e	0	64.452		.169	.586	1	1.143
5	e	0	80.001		.128	.031	1	1.071
6	e	0	91.112		.022	.000	1	1.033
7	e	0	91.085		.002	.000	1	1.003
8	e	0	91.068		.000	.000	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	6	.000	0		
Saturated model	6	.000	0		
Independence model	3	363.897	3	.000	121.299

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.000	1.000		
Saturated model	.000	1.000		
Independence model	.491	.651	.302	.326

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	1.000		1.000		1.000
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.000	.000	.000
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	.000	.000	.000

Model	NCP	LO 90	HI 90
Saturated model	.000	.000	.000
Independence model	360.897	301.928	427.272

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.000	.000	.000	.000
Saturated model	.000	.000	.000	.000
Independence model	1.052	1.043	.873	1.235

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Independence model	.590	.539	.642	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	12.000	12.140	35.096	41.096
Saturated model	12.000	12.140	35.096	41.096
Independence model	369.897	369.968	381.445	384.445

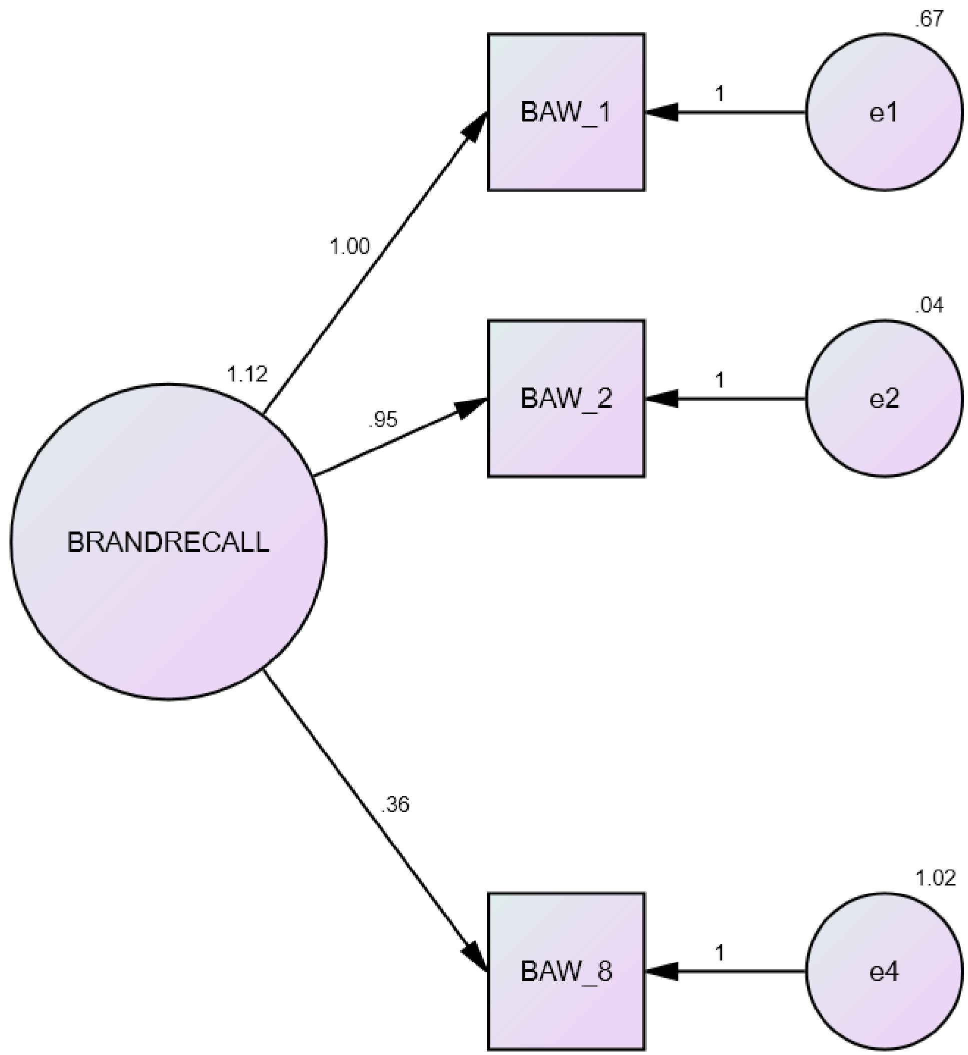
ECVI

Model	ECVI	LO 90	HI 90	MECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.035	.035	.035	.035
Saturated model	.035	.035	.035	.035
Independence model	1.069	.899	1.261	1.069

HOELTER

Model	HOELTER .05	HOELTER .01
Default model		
Independence model	8	11



.67
1
BAW_1
e1
1.00
.04
1
BAW_2
e2
1.12
.95
BRANDRECALL
.36
1.02
1
BAW_8
e4

APPENDIX X: Brand Awareness Respecifiction Output

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
BAWQ6	<---	BRECALL	1.000				
BAWQ7	<---	BRECALL	1.430	.113	12.683	***	
BAWQ8	<---	BRECALL	1.088	.089	12.162	***	
BAW_1	<---	BRECOG	1.000				
BAW_2	<---	BRECOG	.864	.096	9.016	***	

Standardized Regression Weights

			Estimate
BAWQ6	<---	BRECALL	.692
BAWQ7	<---	BRECALL	.956
BAWQ8	<---	BRECALL	.698
BAW_1	<---	BRECOG	.829
BAW_2	<---	BRECOG	.936

Covariances

	Estimate	S.E.	C.R.	P	Label

	Estimate	S.E.	C.R.	P	Label
BRECALL <--> BRECOG	.299	.058	5.140	***	

Correlation

	Estimate
BRECALL <--> BRECOG	.389

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
BRECALL	.480	.070	6.816	***	
BRECOG	1.231	.182	6.773	***	
e1	.523	.048	10.882	***	
e2	.093	.054	1.712	.087	
e3	.597	.055	10.762	***	
e4	.560	.135	4.155	***	
e5	.131	.096	1.364	.173	

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

	M.I.	Par Change
e3 <--> BRECOG	6.737	.122

	M.I.	Par Change
e3 <--> e5	5.438	.064
e2 <--> BRECOG	4.779	-.081
e2 <--> e5	4.443	-.046

Variances: (Group number 1 - Default model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Default model)

	M.I.	Par Change
BAWQ8 <--- BRECOG	5.548	.096
BAWQ8 <--- BAW_2	6.571	.108
BAWQ7 <--- BRECOG	4.091	-.067
BAWQ7 <--- BAW_2	4.951	-.075

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	4		-.297	9999.000	853.062	0	9999.000
1	e	2		-.173	1.572	299.771	20	.705

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
2	e 0	36.487		.650	78.612	5	.867
3	e 0	85.364		.776	48.820	2	.000
4	e 0	84.748		.255	17.171	1	1.063
5	e 0	68.966		.171	13.533	1	1.007
6	e 0	82.763		.022	13.393	1	1.010
7	e 0	83.349		.001	13.393	1	1.001

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	11	13.393	4	.010	3.348
Saturated model	15	.000	0		
Independence model	5	783.763	10	.000	78.376

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.039	.986	.946	.263
Saturated model	.000	1.000		

Model	RMR	GFI	AGFI	PGFI
Independence model	.462	.528	.292	.352

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.983	.957	.988	.970	.988
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.400	.393	.395
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	9.393	1.840	24.500
Saturated model	.000	.000	.000
Independence model	773.763	685.617	869.304

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.039	.027	.005	.071
Saturated model	.000	.000	.000	.000
Independence model	2.265	2.236	1.982	2.512

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.082	.036	.133	.110
Independence model	.473	.445	.501	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	35.393	35.781	77.735	88.735
Saturated model	30.000	30.529	87.740	102.740
Independence model	793.763	793.940	813.010	818.010

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.102	.080	.146	.103
Saturated model	.087	.087	.087	.088
Independence model	2.294	2.039	2.570	2.295

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	246	344
Independence model	9	11

APPENDIX XI: SEM Results for Brand Associations

Table 1: Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
BASQ9	.275
BASQ5	.487
BASQ4	.670
BASQ3	.524
BASQ1	.230

Table 2: Modification Indices - Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
BASQ9	<---	BASQ1	6.709	.135
BASQ4	<---	BASQ5	5.533	.087
BASQ4	<---	BASQ1	9.220	-.132
BASQ3	<---	BASQ5	4.387	-.082
BASQ3	<---	BASQ1	12.319	.160
BASQ1	<---	BASQ9	6.219	.110
BASQ1	<---	BASQ3	6.501	.111

APPENDIX XII: Brand Association Sub-Model Fitness Test

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
BASQ3 <--- BAS	1.000				
BASQ4 <--- BAS	1.475	.148	9.973	***	
BASQ5 <--- BAS	1.120	.105	10.673	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
BASQ3 <--- BAS	.640
BASQ4 <--- BAS	.926
BASQ5 <--- BAS	.681

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
BAS	.385	.065	5.916	***	
e2	.556	.052	10.720	***	
e3	.140	.066	2.108	.035	
e4	.560	.057	9.846	***	

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	2		-.244	9999.000	359.024	0	9999.000
1	e	1		-.011	1.113	109.437	20	.679
2	e	0	27.276		.479	42.208	4	.796
3	e	0	22.031		.574	13.332	2	.000
4	e	0	27.979		.201	1.341	1	1.154
5	e	0	36.467		.119	.055	1	1.103
6	e	0	40.690		.031	.000	1	1.039
7	e	0	40.230		.002	.000	1	1.003
8	e	0	40.232		.000	.000	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	6	.000	0		
Saturated model	6	.000	0		
Independence model	3	327.821	3	.000	109.274

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.000	1.000		
Saturated model	.000	1.000		
Independence model	.390	.615	.231	.308

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	1.000		1.000		1.000
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.000	.000	.000
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	.000	.000	.000

Model	NCP	LO 90	HI 90
Saturated model	.000	.000	.000
Independence model	324.821	269.048	387.999

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.000	.000	.000	.000
Saturated model	.000	.000	.000	.000
Independence model	.947	.939	.778	1.121

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Independence model	.559	.509	.611	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	12.000	12.140	35.096	41.096
Saturated model	12.000	12.140	35.096	41.096
Independence model	333.821	333.891	345.369	348.369

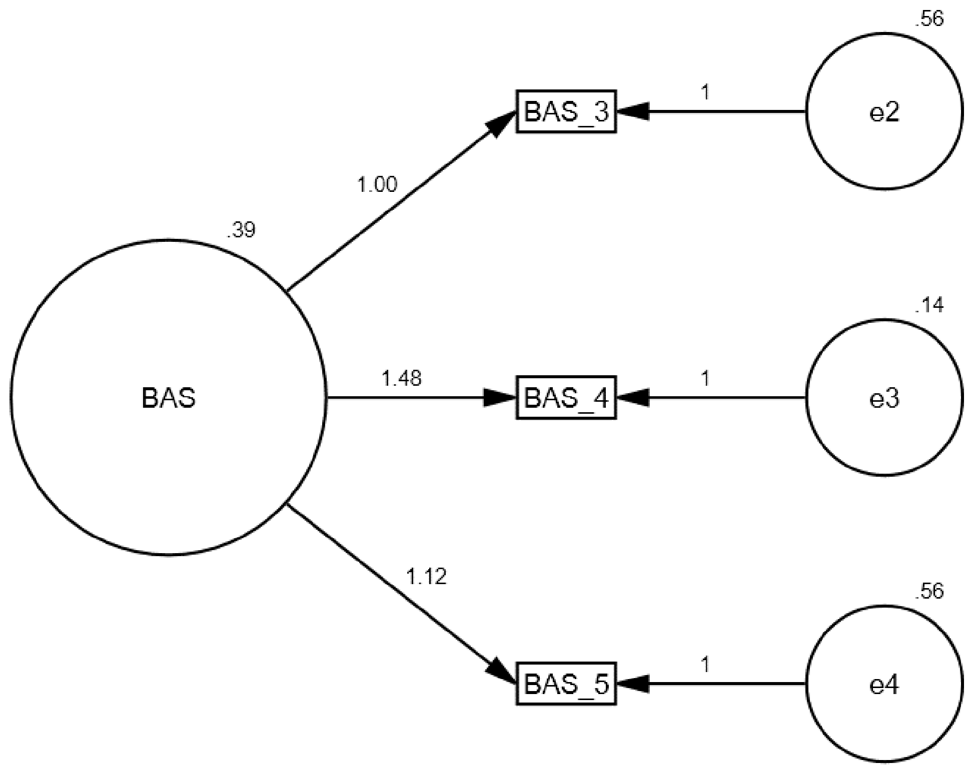
ECVI

Model	ECVI	LO 90	HI 90	MECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.035	.035	.035	.035
Saturated model	.035	.035	.035	.035
Independence model	.965	.804	1.147	.965

HOELTER

Model	HOELTER .05	HOELTER .01
Default model		
Independence model	9	12


.56
BAS_3
1
e2
1.00
.39
.14
BAS
1.48
BAS_4
1
e3
1.12
.56
BAS_5
1
e4

APPENDIX XIII: SEM Results for Perceived Quality

Table 1: Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
PQ5	<---	PQ	.560
PQ6	<---	PQ	.704
PQ7	<---	PQ	.834
PQ8	<---	PQ	.695

Table 2: Modification Indices - Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
PQ8	<---	PQ5	11.859	-.153
PQ7	<---	PQ8	7.253	.099
PQ6	<---	PQ5	32.810	.228
PQ5	<---	PQ8	8.132	-.126
PQ5	<---	PQ6	21.668	.228

APPENDIX XIV: Perceived Quality Sub-Model Fitness Test

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
PQU5	<---	PQ	.839	.092	9.121	***	
PQU6	<---	PQ	1.000				
PQU7	<---	PQ	1.255	.106	11.874	***	

	Estimate	S.E.	C.R.	P	Label
PQU8 <--- PQ	1.094	.099	11.021	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
PQU5 <--- PQ	.560
PQU6 <--- PQ	.704
PQU7 <--- PQ	.834
PQU8 <--- PQ	.695

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
PQ	.429	.063	6.769	***	
e1	.660	.056	11.795	***	
e2	.436	.043	10.025	***	
e3	.295	.047	6.266	***	
e4	.550	.054	10.213	***	

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

	M.I.	Par Change

			M.I.	Par Change
e3	<-->	e4	14.800	.111
e2	<-->	e4	4.577	-.066
e2	<-->	e3	4.868	-.057
e1	<-->	e4	18.491	-.158
e1	<-->	e3	4.964	-.069
e1	<-->	e2	51.100	.234

Variances: (Group number 1 - Default model)

M.I. Par Change

Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
PQU8	<---	PQU5	11.859	-.153
PQU7	<---	PQU8	7.253	.099
PQU6	<---	PQU5	32.810	.228
PQU5	<---	PQU8	8.132	-.126
PQU5	<---	PQU6	21.668	.228

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	2		-.318	9999.000	486.223	0	9999.000
1	e	1		-.012	1.426	150.054	20	.520
2	e	0	34.831		.553	88.187	5	.707
3	e	0	20.510		.612	74.599	1	.712
4	e	0	27.188		.120	68.107	1	1.061
5	e	0	27.087		.024	67.995	1	1.038
6	e	0	26.961		.003	67.995	1	1.005
7	e	0	26.978		.000	67.995	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	8	67.995	2	.000	33.997
Saturated model	10	.000	0		
Independence model	4	475.399	6	.000	79.233

RMR, GFI

Model	RMR	GFI	AGFI	PGFI

Model	RMR	GFI	AGFI	PGFI
Default model	.075	.907	.533	.181
Saturated model	.000	1.000		
Independence model	.373	.569	.282	.341

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.857	.571	.861	.578	.859
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.333	.286	.286
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	65.995	42.678	96.731
Saturated model	.000	.000	.000

Model	NCP	LO 90	HI 90
Independence model	469.399	401.557	544.645

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.197	.191	.123	.280
Saturated model	.000	.000	.000	.000
Independence model	1.374	1.357	1.161	1.574

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.309	.248	.374	.000
Independence model	.476	.440	.512	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	83.995	84.229	114.789	122.789
Saturated model	20.000	20.293	58.493	68.493
Independence model	483.399	483.516	498.796	502.796

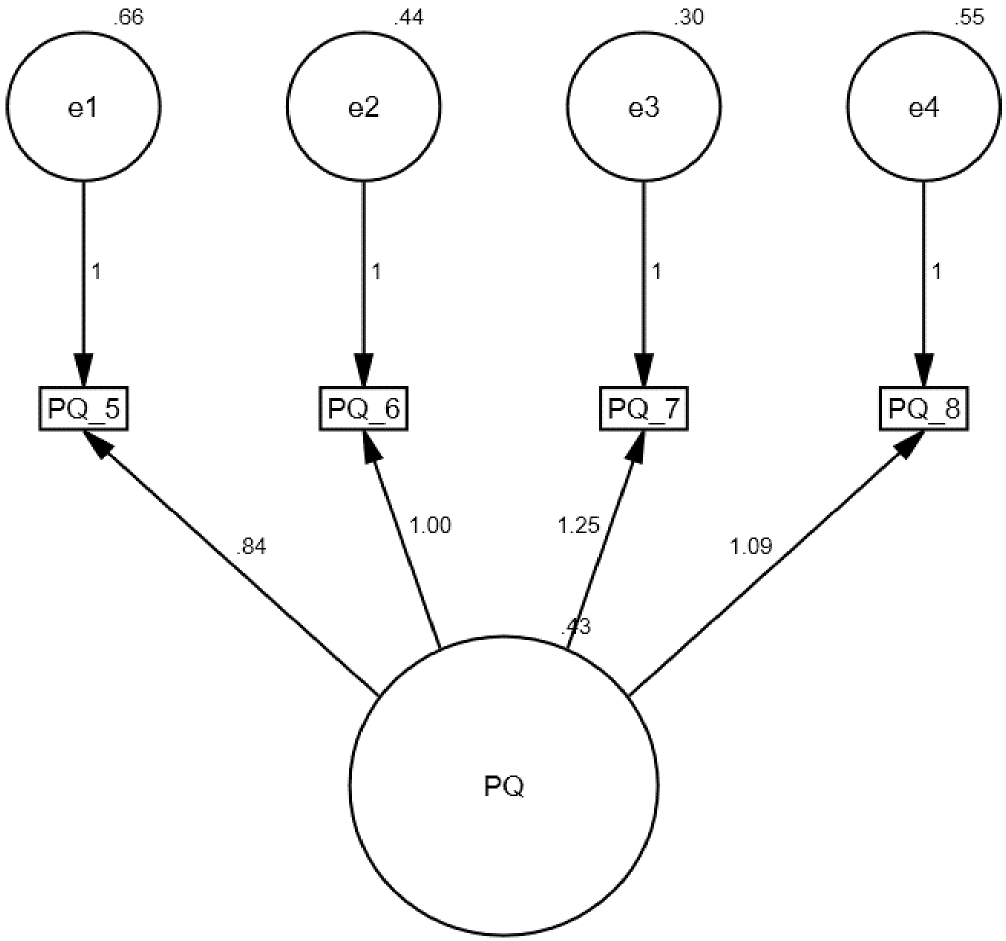
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.243	.175	.332	.243

Model	ECVI	LO 90	HI 90	MECVI
Saturated model	.058	.058	.058	.059
Independence model	1.397	1.201	1.615	1.397

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	31	47
Independence model	10	13


.66
.44
.30
.55
e1
e2
e3
e4
1
1
1
1
PQ_5
PQ_6
PQ_7
PQ_8
.84
1.00
1.25
1.09
.43
PQ

APPENDIX XV: Perceived Quality Sub Respecification Model

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
PQU6 <--- PQ	1.000				
PQU7 <--- PQ	1.546	.160	9.686	***	
PQU8 <--- PQ	1.286	.124	10.356	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
PQU6 <--- PQ	.616
PQU7 <--- PQ	.898
PQU8 <--- PQ	.714

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
PQ	.328	.058	5.671	***	
e1	.537	.048	11.078	***	
e2	.188	.064	2.936	.003	
e3	.521	.059	8.888	***	

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	2		-.235	9999.000	347.824	0	9999.000
1	e	1		-.018	1.083	111.353	20	.686
2	e	0	20.708		.677	40.799	5	.657
3	e	0	19.468		.438	8.078	1	1.146
4	e	0	26.856		.196	.981	1	1.175
5	e	0	36.560		.122	.042	1	1.108
6	e	0	40.668		.029	.000	1	1.036
7	e	0	41.074		.002	.000	1	1.002
8	e	0	41.076		.000	.000	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	6	.000	0		
Saturated model	6	.000	0		
Independence model	3	315.449	3	.000	105.150

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.000	1.000		
Saturated model	.000	1.000		
Independence model	.378	.623	.245	.311

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	1.000		1.000		1.000
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.000	.000	.000
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	.000	.000	.000
Saturated model	.000	.000	.000

Model	NCP	LO 90	HI 90
Independence model	312.449	257.815	374.491

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.000	.000	.000	.000
Saturated model	.000	.000	.000	.000
Independence model	.912	.903	.745	1.082

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Independence model	.549	.498	.601	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	12.000	12.140	35.096	41.096
Saturated model	12.000	12.140	35.096	41.096
Independence model	321.449	321.519	332.997	335.997

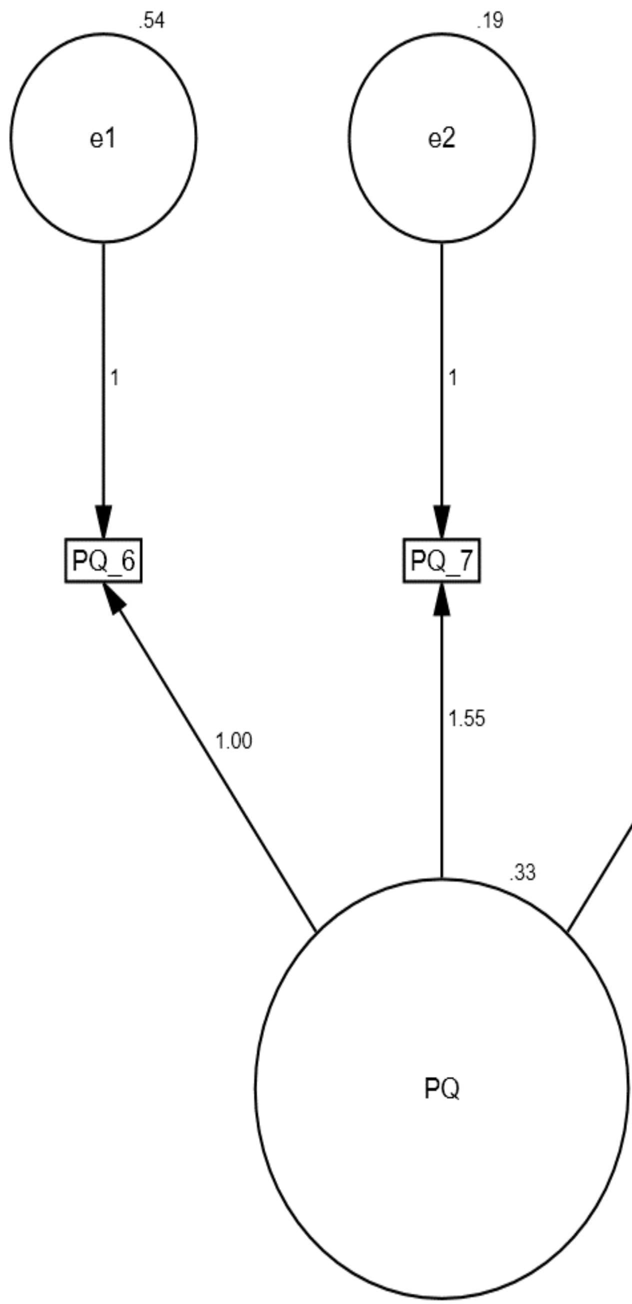
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.035	.035	.035	.035
Saturated model	.035	.035	.035	.035

Model	ECVI	LO 90	HI 90	MECVI
Independence model	.929	.771	1.108	.929

HOELTER

Model	HOELTER .05	HOELTER .01
Default model		
Independence model	9	13


.54
.19
.52
e1
e2
e3
1
1
1
PQ_6
PQ_7
PQ_8
1.00
1.55
1.29
.33
PQ

APPENDIXXVI: SEM Results for Brand Loyalty

Table 1: Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
BLY_6	.540
BLY_5	.729
BLY_4	.567
BLY_9	.646
BLY_8	.569
BLY_12	.738
BLY_13	.680
BLY_11	.536
BLY_10	.298

Table 2: Modification Indices - Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
BLY_5	<---	ACTENG	4.933	-.153
BLY_5	<---	BLY_13	6.266	-.084
BLY_5	<---	BLY_11	5.576	-.079
BLY_4	<---	ACTENG	9.818	.232
BLY_4	<---	BLY_12	6.263	.095
BLY_4	<---	BLY_13	12.739	.129
BLY_4	<---	BLY_11	10.262	.115
BLY_9	<---	BLY_6	7.168	-.115
BLY_9	<---	BLY_11	11.072	.135
BLY_9	<---	BLY_10	40.010	.270
BLY_8	<---	BLY_6	9.182	.127
BLY_8	<---	BLY_12	6.001	-.102
BLY_12	<---	BEHLY	5.369	-.120
BLY_12	<---	SENCOM	13.828	-.193

			M.I.	Par Change
BLY_12	<---	BLY_6	7.329	-.094
BLY_12	<---	BLY_9	10.043	-.105
BLY_12	<---	BLY_8	14.678	-.132
BLY_12	<---	BLY_10	5.545	-.081
BLY_13	<---	BLY_9	7.284	-.097
BLY_11	<---	SENCOM	8.027	.178
BLY_11	<---	BLY_9	13.008	.146
BLY_11	<---	BLY_10	6.925	.110
BLY_10	<---	SENCOM	52.933	.509
BLY_10	<---	BLY_9	67.995	.370
BLY_10	<---	BLY_8	31.333	.261
BLY_10	<---	BLY_11	4.120	.089

APPENDIX XVII: Brand Loyalty (Active Engagement) Sub-Model Fitness Test

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
LOYQ11	<---	ACTIVEENGAGE	1.000				
LOYQ12	<---	ACTIVEENGAGE	1.259	.095	13.221	***	
LOYQ13	<---	ACTIVEENGAGE	1.173	.088	13.338	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate

	Estimate
LOYQ11 <--- ACTIVEENGAGE	.688
LOYQ12 <--- ACTIVEENGAGE	.913
LOYQ13 <--- ACTIVEENGAGE	.813

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
ACTIVEENGAGE	.560	.081	6.870	***	
e2	.621	.055	11.273	***	
e3	.176	.047	3.754	***	
e4	.394	.049	8.007	***	

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
LOYQ13	.661
LOYQ12	.834
LOYQ11	.474

Matrices (Group number 1 - Default model)

Residual Covariances (Group number 1 - Default model)

	LOYQ13	LOYQ12	LOYQ11
LOYQ13	.000		

	LOYQ13	LOYQ12	LOYQ11
LOYQ12	.000	.000	
LOYQ11	.000	.000	.000

Standardized Residual Covariances (Group number 1 - Default model)

	LOYQ13	LOYQ12	LOYQ11
LOYQ13	.000		
LOYQ12	.000	.000	
LOYQ11	.000	.000	.000

Factor Score Weights (Group number 1 - Default model)

	LOYQ13	LOYQ12	LOYQ11
ACTIVEENGAGE	.187	.450	.101

Minimization History (Default model)

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	2		-.318	9999.000	488.103	0	9999.000
1	e	1		-.096	1.289	163.303	20	.614
2	e	0	28.379		.442	59.982	5	.891
3	e	0	20.909		.459	13.102	3	.000
4	e	0	19.331		.309	2.091	1	1.043
5	e	0	27.244		.097	.045	1	1.063
6	e	0	29.076		.026	.000	1	1.027
7	e	0	29.357		.001	.000	1	1.001
8	e	0	29.358		.000	.000	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	6	.000	0		
Saturated model	6	.000	0		
Independence model	3	462.805	3	.000	154.268

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.000	1.000		
Saturated model	.000	1.000		
Independence model	.518	.543	.087	.272

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	1.000		1.000		1.000
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.000	.000	.000
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	.000	.000	.000

Model	NCP	LO 90	HI 90
Saturated model	.000	.000	.000
Independence model	459.805	392.806	534.206

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.000	.000	.000	.000
Saturated model	.000	.000	.000	.000
Independence model	1.338	1.329	1.135	1.544

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Independence model	.666	.615	.717	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	12.000	12.140	35.096	41.096
Saturated model	12.000	12.140	35.096	41.096

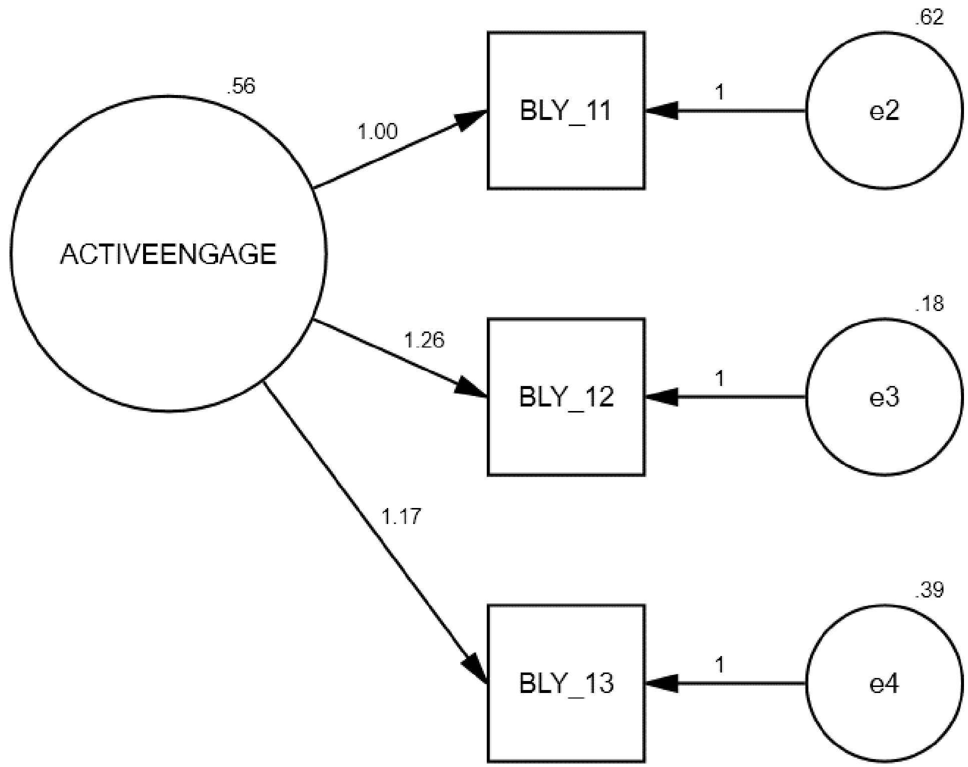
Model	AIC	BCC	BIC	CAIC
Independence model	468.805	468.876	480.353	483.353

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.035	.035	.035	.035
Saturated model	.035	.035	.035	.035
Independence model	1.355	1.161	1.570	1.355

HOELTER

Model	HOELTER .05	HOELTER .01
Default model		
Independence model	6	9


.56
ACTIVEENGAGE
1.00
1.26
1.17
BLY_11
BLY_12
BLY_13
1
1
1
.62
e2
.18
e3
.39
e4

APPENDIX XVII: Brand Loyalty (Behavioral Loyalty) Sub-Model Fitness Test

Estimates , Scalar Estimates, Maximum Likelihood Estimates, Regression Weights.

			Estimate	S.E.	C.R.	P	Label
LOYQ4	<---	BEHAVLOYALTY	1.000				
LOYQ5	<---	BEHAVLOYALTY	1.244	.101	12.376	***	par_1
LOYQ6	<---	BEHAVLOYALTY	1.046	.085	12.252	***	par_2

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
BEHAVLOYALTY	.506	.072	7.018	***	par_3
e1	.470	.047	9.910	***	par_4
e2	.203	.051	4.014	***	par_5
e3	.500	.051	9.785	***	par_6

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	6	.000	0		
Saturated model	6	.000	0		

Model	NPAR	CMIN	DF	P	CMIN/DF
Independence model	3	382.433	3	.000	127.478

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.000	1.000		
Saturated model	.000	1.000		
Independence model	.430	.577	.153	.288

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	1.000		1.000		1.000
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.000	.000	.000
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	.000	.000	.000
Saturated model	.000	.000	.000
Independence model	379.433	318.884	447.388

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.000	.000	.000	.000
Saturated model	.000	.000	.000	.000
Independence model	1.105	1.097	.922	1.293

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Independence model	.605	.554	.657	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	12.000	12.140	35.096	41.096
Saturated model	12.000	12.140	35.096	41.096
Independence model	388.433	388.503	399.981	402.981

ECVI

Model	ECVI	LO 90	HI 90	MECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.035	.035	.035	.035
Saturated model	.035	.035	.035	.035
Independence model	1.123	.948	1.319	1.123

HOELTER

Model	HOELTER .05	HOELTER .01
Default model		
Independence model	8	11

APPENDIX VIII: SEM Results for Full CBBE Model

Table 1: Squared Multiple Correlations: (Group number 1 - Default model)

			Estimate
BLY_6			.537
BLY_5			.719
BLY_4			.578
BLY_9			.607
BLY_8			.606
BLY_13			.699
BLY_12			.775
BLY_11			.497
PQ_8			.534
PQ_7			.720

			Estimate
PQ_6			.434
BASQ5			.573
BASQ4			.689
BASQ3			.439
BAW_2			.793
BAW_1			.759
BAW_8			.526
BAW_7			.832
BAW_6			.511

APPENDIX XIX: CBBE Initial Measurement Model Fitness Test

Estimates , Scalar Estimates, Maximum Likelihood Estimates&Regression Weights

			Estimate	S.E.	C.R.	P	Label
BAW_1	<---	F1	1.000				
BAW_2	<---	F1	.793	.042	18.708	***	
BAWQ3	<---	F1	.575	.042	13.595	***	
LOYQ12	<---	F2	1.000				
LOYQ13	<---	F2	.998	.057	17.611	***	
LOYQ11	<---	F2	.847	.059	14.372	***	
BAWQ7	<---	F3	1.000				
BAWQ6	<---	F3	.868	.055	15.814	***	

			Estimate	S.E.	C.R.	P	Label
BAWQ5	<---	F3	.684	.055	12.344	***	
BAWQ8	<---	F3	.848	.061	13.975	***	
PQU8	<---	F4	1.000				
PQU9	<---	F4	.885	.077	11.463	***	
PQU7	<---	F4	.919	.070	13.154	***	
PQU6	<---	F4	.811	.073	11.040	***	
BASQ8	<---	F5	1.000				
BASQ7	<---	F5	.977	.074	13.158	***	
BASQ9	<---	F5	.908	.071	12.769	***	
BASQ10	<---	F5	.893	.079	11.362	***	
BASQ6	<---	F5	.818	.073	11.153	***	
BASQ3	<---	F6	1.000				
BASQ4	<---	F6	1.146	.094	12.177	***	
BASQ5	<---	F6	1.132	.096	11.794	***	
BASQ1	<---	F6	.658	.079	8.371	***	
LOYQ5	<---	F7	1.000				
LOYQ4	<---	F7	.933	.063	14.822	***	
LOYQ6	<---	F7	.897	.066	13.679	***	
LOYQ2	<---	F8	1.000				

			Estimate	S.E.	C.R.	P	Label
LOYQ1	<---	F8	1.259	.064	19.793	***	
LOYQ3	<---	F8	.735	.049	15.121	***	
LOYQ9	<---	F9	1.000				
LOYQ10	<---	F9	.755	.066	11.475	***	
LOYQ8	<---	F9	.797	.066	12.108	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
BAW_1	<---	F1	.860
BAW_2	<---	F1	.890
BAWQ3	<---	F1	.673
LOYQ12	<---	F2	.878
LOYQ13	<---	F2	.837
LOYQ11	<---	F2	.706
BAWQ7	<---	F3	.862
BAWQ6	<---	F3	.775
BAWQ5	<---	F3	.635
BAWQ8	<---	F3	.702
PQU8	<---	F4	.774
PQU9	<---	F4	.654

	Estimate
PQU7 <--- F4	.754
PQU6 <--- F4	.631
BASQ8 <--- F5	.778
BASQ7 <--- F5	.718
BASQ9 <--- F5	.698
BASQ10 <--- F5	.627
BASQ6 <--- F5	.617
BASQ3 <--- F6	.694
BASQ4 <--- F6	.780
BASQ5 <--- F6	.746
BASQ1 <--- F6	.506
LOYQ5 <--- F7	.833
LOYQ4 <--- F7	.782
LOYQ6 <--- F7	.723
LOYQ2 <--- F8	.903
LOYQ1 <--- F8	.842
LOYQ3 <--- F8	.703
LOYQ9 <--- F9	.848
LOYQ10 <--- F9	.660

	Estimate
LOYQ8 <--- F9	.702

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
F8	<-->	F9	.457	.062	7.387	***
F7	<-->	F8	.496	.059	8.412	***
F6	<-->	F7	.329	.046	7.162	***
F5	<-->	F6	.314	.043	7.314	***
F4	<-->	F5	.384	.048	8.006	***
F3	<-->	F4	.355	.051	6.944	***
F2	<-->	F3	.463	.059	7.879	***
F1	<-->	F2	.436	.070	6.195	***
F7	<-->	F9	.358	.055	6.528	***
F5	<-->	F7	.388	.049	7.902	***
F	<--	F5	.392	.051	7.701	***

			Estimate	S.E.	C.R.	P
3	>					
F1	<-->	F3	.451	.071	6.396	***
F6	<-->	F9	.336	.049	6.828	***
F4	<-->	F6	.261	.041	6.320	***
F2	<-->	F4	.394	.053	7.471	***
F1	<-->	F4	.418	.064	6.535	***
F5	<-->	F9	.349	.051	6.866	***
F2	<-->	F5	.375	.050	7.445	***
F1	<-->	F5	.517	.066	7.837	***
F4	<-->	F9	.306	.051	5.998	***
F3	<-->	F9	.405	.059	6.898	***
F2	<-->	F9	.372	.058	6.425	***
F1	<-->	F9	.489	.074	6.593	***

			Estimate	S.E.	C.R.	P
F6	<-->	F8	.403	.052	7.749	***
F5	<-->	F8	.455	.055	8.352	***
F4	<-->	F8	.396	.054	7.355	***
F3	<-->	F8	.473	.060	7.845	***
F2	<-->	F8	.496	.061	8.108	***
F1	<-->	F8	.699	.081	8.667	***
F4	<-->	F7	.386	.051	7.642	***
F3	<-->	F7	.385	.054	7.141	***
F2	<-->	F7	.335	.052	6.388	***
F1	<-->	F7	.452	.068	6.684	***
F3	<-->	F6	.367	.049	7.438	***
F2	<-->	F6	.258	.045	5.788	***
F	<--	F6	.358	.058	6.183	***

	Estimate S.E. C.R. P
1 >	

Correlations: (Group number 1 - Default model)

	Estimate
F8 <--> F9	.531
F7 <--> F8	.631
F6 <--> F7	.590
F5 <--> F6	.628
F4 <--> F5	.679
F3 <--> F4	.520
F2 <--> F3	.572
F1 <--> F2	.418
F7 <--> F9	.478
F5 <--> F7	.633
F3 <--> F5	.592
F1 <--> F3	.439
F6 <--> F9	.552
F4 <--> F6	.508
F2 <--> F4	.570
F1 <--> F4	.477

	Estimate
F5 <--> F9	.520
F2 <--> F5	.558
F1 <--> F5	.606
F4 <--> F9	.444
F3 <--> F9	.500
F2 <--> F9	.454
F1 <--> F9	.469
F6 <--> F8	.631
F5 <--> F8	.646
F4 <--> F8	.547
F3 <--> F8	.557
F2 <--> F8	.576
F1 <--> F8	.639
F4 <--> F7	.612
F3 <--> F7	.520
F2 <--> F7	.447
F1 <--> F7	.475
F3 <--> F6	.610
F2 <--> F6	.423

	Estimate
F1 <--> F6	.462

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
F1	1.324	.140	9.444	***	
F2	.820	.085	9.691	***	
F3	.799	.085	9.440	***	
F4	.582	.074	7.882	***	
F5	.550	.068	8.118	***	
F6	.453	.067	6.807	***	
F7	.684	.078	8.802	***	
F8	.903	.087	10.369	***	
F9	.818	.096	8.539	***	
e1	.467	.060	7.758	***	
e2	.218	.035	6.312	***	
e3	.528	.045	11.786	***	
e4	.243	.036	6.697	***	
e5	.348	.041	8.426	***	
e6	.593	.052	11.332	***	
e7	.276	.037	7.474	***	

	Estimate	S.E.	C.R.	P	Label
e8	.400	.040	10.129	***	
e9	.553	.047	11.846	***	
e10	.592	.053	11.254	***	
e11	.389	.042	9.305	***	
e12	.608	.054	11.253	***	
e13	.373	.038	9.762	***	
e14	.579	.050	11.481	***	
e15	.359	.036	9.951	***	
e16	.493	.045	10.940	***	
e17	.475	.043	11.178	***	
e18	.676	.057	11.817	***	
e19	.600	.050	11.890	***	
e20	.488	.045	10.742	***	
e21	.383	.042	9.075	***	
e22	.464	.047	9.872	***	
e23	.570	.046	12.277	***	
e24	.302	.038	7.876	***	
e25	.380	.040	9.452	***	
e26	.503	.047	10.627	***	

	Estimate	S.E.	C.R.	P	Label
e27	.203	.031	6.476	***	
e28	.589	.064	9.266	***	
e29	.500	.043	11.722	***	
e30	.319	.054	5.938	***	
e31	.604	.055	10.887	***	
e32	.536	.052	10.214	***	

Modification Indices (Group number 1 - Default model

	M.I.	Par Change
e32 <--> F8	5.125	.067
e32 <--> F2	20.364	-.147
e31 <--> F4	7.785	-.081
e31 <--> F3	5.986	-.080
e31 <--> F2	49.896	.239
e31 <--> e32	6.551	-.090
e26 <--> e32	10.505	.108
e26 <--> e30	5.517	-.073
e25 <--> F8	14.802	.099
e25 <--> F7	5.720	-.058
e25 <--> F1	5.452	-.084

	M.I.	Par Change
e25 <--> e29	7.238	.075
e25 <--> e26	4.977	-.063
e24 <--> F8	6.486	-.062
e24 <--> e29	8.386	-.077
e24 <--> e26	7.358	.072
e23 <--> F6	9.455	-.072
e23 <--> F3	5.087	.069
e23 <--> e28	5.428	-.085
e22 <--> F1	4.231	.080
e22 <--> e23	12.834	-.113
e21 <--> F6	6.628	.052
e21 <--> F3	5.395	-.065
e21 <--> e27	4.193	-.047
e21 <--> e23	9.960	-.093
e21 <--> e22	7.184	.075
e20 <--> F1	4.895	-.086
e20 <--> e28	7.174	-.096
e20 <--> e23	14.037	.118
e20 <--> e22	14.233	-.115

	M.I.	Par Change
e20 <--> e21	6.540	.072
e19 <--> F8	7.917	.084
e19 <--> F5	6.400	-.061
e19 <--> F2	5.086	-.074
e19 <--> e32	19.124	.152
e19 <--> e28	5.573	.090
e19 <--> e22	18.726	.143
e19 <--> e20	6.993	-.087
e18 <--> F2	12.795	.125
e18 <--> e22	5.161	-.080
e18 <--> e20	8.543	.102
e18 <--> e19	6.388	-.094
e17 <--> F6	7.062	.060
e17 <--> e27	4.359	.049
e17 <--> e20	7.977	.085
e17 <--> e19	13.604	-.118
e17 <--> e18	13.387	.124
e16 <--> e31	4.886	.075
e16 <--> e19	25.490	.165

	M.I.	Par Change
e16 <--> e18	7.348	-.094
e16 <--> e17	15.895	-.119
e15 <--> F5	4.565	.041
e15 <--> e30	4.830	.059
e15 <--> e29	4.737	.058
e15 <--> e21	5.092	-.058
e15 <--> e19	6.818	-.075
e15 <--> e16	13.707	.099
e14 <--> F2	6.857	.085
e14 <--> e25	11.902	.104
e14 <--> e17	9.185	.097
e13 <--> e31	8.024	-.087
e13 <--> e14	25.312	.147
e12 <--> e29	5.036	.074
e12 <--> e14	26.470	-.183
e12 <--> e13	5.659	-.072
e11 <--> e14	7.909	-.085
e11 <--> e12	38.999	.195
e10 <--> F4	4.762	.062

			M.I.	Par Change
e10	<-->	e32	5.149	.080
e10	<-->	e12	11.888	.126
e9	<-->	F2	6.615	.081
e9	<-->	e29	4.598	-.067
e9	<-->	e14	11.788	.115
e9	<-->	e13	6.290	.072
e9	<-->	e11	8.062	-.085
e9	<-->	e10	11.661	-.116
e8	<-->	F4	5.117	-.055
e8	<-->	e12	4.223	-.064
e8	<-->	e10	23.617	-.148
e8	<-->	e9	45.743	.196
e7	<-->	e16	5.557	-.063
e7	<-->	e14	8.933	-.085
e7	<-->	e11	6.031	.062
e7	<-->	e10	17.836	.118
e7	<-->	e9	10.216	-.086
e6	<-->	F9	24.364	.180
e6	<-->	F8	4.734	-.066

			M.I.	Par Change
e6	<-->	e31	7.852	.103
e6	<-->	e30	9.816	.103
e6	<-->	e29	12.193	.114
e6	<-->	e27	11.584	-.089
e6	<-->	e20	11.806	-.115
e6	<-->	e10	5.260	-.083
e5	<-->	e30	6.192	-.069
e5	<-->	e22	5.021	-.064
e5	<-->	e18	6.190	.080
e4	<-->	e32	9.877	-.086
e4	<-->	e31	6.310	.071
e4	<-->	e27	6.874	.053
e3	<-->	F5	12.183	.081
e3	<-->	F1	6.694	-.100
e3	<-->	e31	15.087	.132
e3	<-->	e29	4.951	.068
e3	<-->	e18	10.068	.112
e3	<-->	e16	5.583	.073
e3	<-->	e7	5.749	-.065

			M.I.	Par Change
e3	<-->	e5	8.415	.082
e2	<-->	F3	4.365	.050
e2	<-->	e31	8.304	-.079
e2	<-->	e28	6.708	-.074
e2	<-->	e16	12.984	-.089
e2	<-->	e13	5.567	.053
e2	<-->	e6	4.291	-.055
e2	<-->	e4	6.039	.051
e1	<-->	e28	17.985	.164
e1	<-->	e20	5.165	-.076
e1	<-->	e16	5.449	.078
e1	<-->	e3	6.054	-.081

Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
LOYQ8	<---	F7	6.005	.138
LOYQ8	<---	LOYQ2	4.462	.086
LOYQ8	<---	LOYQ6	13.661	.155
LOYQ8	<---	BASQ6	15.818	.174
LOYQ8	<---	BAWQ8	5.647	.095

			M.I.	Par Change
LOYQ8	<---	LOYQ12	7.346	-.113
LOYQ10	<---	F2	21.372	.243
LOYQ10	<---	LOYQ11	24.329	.203
LOYQ10	<---	LOYQ13	19.720	.184
LOYQ10	<---	LOYQ12	22.558	.206
LOYQ10	<---	BAWQ3	6.304	.114
LOYQ9	<---	LOYQ6	7.229	-.105
LOYQ9	<---	BASQ6	4.330	-.085
LOYQ9	<---	LOYQ13	6.393	-.094
LOYQ3	<---	F4	4.975	.127
LOYQ3	<---	BASQ8	6.245	.105
LOYQ3	<---	PQU6	4.107	.083
LOYQ3	<---	PQU9	8.596	.113
LOYQ3	<---	LOYQ11	11.429	.124
LOYQ1	<---	BASQ1	7.081	-.143
LOYQ1	<---	BASQ3	7.562	-.134
LOYQ1	<---	BAW_1	4.791	.077
LOYQ2	<---	LOYQ11	6.565	-.075
LOYQ4	<---	F8	8.555	.122

			M.I.	Par Change
LOYQ4	<---	F3	5.184	.102
LOYQ4	<---	F2	8.919	.132
LOYQ4	<---	LOYQ3	14.262	.143
LOYQ4	<---	LOYQ1	8.140	.076
LOYQ4	<---	LOYQ2	7.761	.100
LOYQ4	<---	PQU6	11.722	.131
LOYQ4	<---	BAWQ5	4.271	.081
LOYQ4	<---	BAWQ7	6.422	.092
LOYQ4	<---	LOYQ11	8.804	.103
LOYQ4	<---	LOYQ13	9.280	.106
LOYQ4	<---	LOYQ12	4.261	.075
LOYQ5	<---	F2	4.689	-.091
LOYQ5	<---	LOYQ3	10.450	-.117
LOYQ5	<---	PQU6	4.408	-.077
LOYQ5	<---	LOYQ13	5.664	-.079
BASQ1	<---	F5	4.006	.121
BASQ1	<---	F4	5.234	.137
BASQ1	<---	F3	7.234	.134
BASQ1	<---	F2	6.264	.123

			M.I.	Par Change
BASQ1	<---	LOYQ9	4.650	.084
BASQ1	<---	BASQ5	4.621	-.088
BASQ1	<---	BASQ3	6.258	.108
BASQ1	<---	BASQ10	6.254	.099
BASQ1	<---	BASQ9	6.039	.107
BASQ1	<---	BASQ8	4.860	.097
BASQ1	<---	PQU6	7.474	.116
BASQ1	<---	PQU9	4.099	.082
BASQ1	<---	BAWQ5	5.619	.103
BASQ1	<---	BAWQ6	5.962	.102
BASQ1	<---	BAWQ7	5.621	.096
BASQ1	<---	LOYQ11	5.583	.091
BASQ1	<---	LOYQ12	5.285	.093
BASQ5	<---	F8	4.344	.094
BASQ5	<---	F1	7.680	.104
BASQ5	<---	LOYQ1	4.281	.060
BASQ5	<---	LOYQ2	4.707	.084
BASQ5	<---	BASQ1	9.151	-.141
BASQ5	<---	BASQ3	6.558	-.108

			M.I.	Par Change
BASQ5	<---	BASQ6	15.811	.166
BASQ5	<---	BAW_2	9.070	.120
BASQ5	<---	BAW_1	6.444	.078
BASQ4	<---	F5	4.032	-.112
BASQ4	<---	F3	5.600	-.109
BASQ4	<---	LOYQ2	4.449	-.077
BASQ4	<---	BASQ1	7.135	-.117
BASQ4	<---	BASQ8	7.392	-.110
BASQ4	<---	BAWQ5	6.434	-.101
BASQ4	<---	BAWQ6	4.407	-.081
BASQ4	<---	BAWQ7	4.047	-.075
BASQ4	<---	LOYQ12	4.155	-.076
BASQ3	<---	F1	4.551	-.080
BASQ3	<---	LOYQ1	4.771	-.063
BASQ3	<---	BASQ1	9.965	.147
BASQ3	<---	BASQ5	5.273	-.092
BASQ3	<---	BASQ6	4.548	-.088
BASQ3	<---	BASQ10	4.141	.079
BASQ3	<---	LOYQ11	5.427	-.087

			M.I.	Par Change
BASQ3	<---	BAW_1	7.293	-.082
BASQ6	<---	F8	6.407	.122
BASQ6	<---	LOYQ8	13.802	.157
BASQ6	<---	LOYQ1	9.869	.096
BASQ6	<---	LOYQ2	5.258	.095
BASQ6	<---	BASQ5	12.715	.152
BASQ6	<---	BASQ9	6.158	-.112
BASQ6	<---	BASQ7	10.742	.141
BASQ10	<---	F2	8.157	.155
BASQ10	<---	BASQ9	6.065	.118
BASQ10	<---	LOYQ11	7.042	.113
BASQ10	<---	LOYQ13	11.598	.146
BASQ10	<---	LOYQ12	5.524	.105
BASQ10	<---	BAWQ3	6.181	.117
BASQ9	<---	BASQ1	5.614	.107
BASQ9	<---	BASQ4	5.058	.090
BASQ9	<---	BASQ3	9.839	.128
BASQ9	<---	BASQ6	7.841	-.113
BASQ9	<---	BASQ10	7.518	.103

			M.I.	Par Change
BASQ9	<---	BASQ7	6.761	-.102
BASQ9	<---	PQU6	6.487	.103
BASQ7	<---	BASQ6	14.717	.159
BASQ7	<---	BASQ10	4.134	-.079
BASQ7	<---	BASQ9	7.275	-.114
BASQ7	<---	BASQ8	4.490	.091
BASQ7	<---	BAWQ7	5.900	-.096
BASQ7	<---	LOYQ11	4.375	-.078
BASQ8	<---	BASQ4	6.233	-.091
BASQ8	<---	BASQ7	5.936	.087
PQU6	<---	LOYQ4	7.444	.119
PQU6	<---	BASQ9	6.206	.112
PQU6	<---	PQU7	8.908	.139
PQU6	<---	PQU9	13.546	-.154
PQU6	<---	BAWQ5	8.486	.131
PQU6	<---	LOYQ11	5.496	.093
PQU7	<---	LOYQ10	6.123	-.088
PQU7	<---	PQU6	14.063	.141
PQU9	<---	PQU6	14.490	-.173

			M.I.	Par Change
PQU9	<---	PQU8	12.425	.160
PQU9	<---	BAWQ8	6.568	.106
PQU8	<---	PQU6	4.418	-.082
PQU8	<---	PQU9	20.471	.168
PQU8	<---	BAWQ5	4.564	-.085
BAWQ8	<---	F4	5.924	.153
BAWQ8	<---	LOYQ3	5.210	.101
BAWQ8	<---	BASQ5	4.417	.091
BAWQ8	<---	BASQ6	4.439	.094
BAWQ8	<---	PQU9	15.276	.167
BAWQ8	<---	PQU8	4.882	.099
BAWQ8	<---	BAWQ5	6.448	-.116
BAWQ8	<---	BAWQ6	7.902	-.124
BAWQ5	<---	PQU6	8.884	.127
BAWQ5	<---	PQU7	4.062	.091
BAWQ5	<---	BAWQ8	5.266	-.089
BAWQ5	<---	BAWQ6	15.149	.162
BAWQ5	<---	LOYQ12	4.163	.083
BAWQ6	<---	PQU9	5.779	-.088

			M.I.	Par Change
BAWQ6	<---	BAWQ8	10.868	-.115
BAWQ6	<---	BAWQ5	25.508	.198
BAWQ7	<---	BASQ7	4.805	-.077
BAWQ7	<---	PQU6	7.164	-.096
BAWQ7	<---	BAWQ8	8.575	.096
BAWQ7	<---	BAWQ5	5.869	-.089
BAWQ7	<---	BAWQ3	4.579	-.077
LOYQ11	<---	F9	17.974	.226
LOYQ11	<---	LOYQ8	4.905	.095
LOYQ11	<---	LOYQ10	20.399	.192
LOYQ11	<---	LOYQ9	20.545	.187
LOYQ11	<---	LOYQ3	5.265	.102
LOYQ11	<---	BASQ4	4.539	.095
LOYQ11	<---	PQU9	4.613	.092
LOYQ13	<---	BASQ10	5.643	.084
LOYQ12	<---	F9	4.381	-.086
LOYQ12	<---	F7	4.984	-.099
LOYQ12	<---	LOYQ8	11.484	-.112
LOYQ12	<---	LOYQ9	4.038	-.064

			M.I.	Par Change
LOYQ12	<---	LOYQ6	6.765	-.086
LOYQ12	<---	LOYQ4	4.875	-.076
LOYQ12	<---	BASQ4	5.074	-.078
LOYQ12	<---	PQU8	4.391	-.072
BAWQ3	<---	F9	4.286	.103
BAWQ3	<---	F6	7.718	.184
BAWQ3	<---	F5	12.024	.206
BAWQ3	<---	F4	4.790	.128
BAWQ3	<---	F2	6.103	.119
BAWQ3	<---	LOYQ10	15.755	.157
BAWQ3	<---	LOYQ3	6.329	.104
BAWQ3	<---	BASQ1	4.966	.104
BAWQ3	<---	BASQ4	7.819	.116
BAWQ3	<---	BASQ3	7.628	.117
BAWQ3	<---	BASQ10	19.236	.170
BAWQ3	<---	BASQ9	7.352	.115
BAWQ3	<---	BASQ7	14.748	.156
BAWQ3	<---	BASQ8	6.160	.107
BAWQ3	<---	LOYQ13	10.852	.125

			M.I.	Par Change
BAW_2	<---	LOYQ10	9.290	-.096
BAW_2	<---	LOYQ1	5.613	-.055
BAW_2	<---	BASQ7	10.384	-.104
BAW_1	<---	LOYQ1	6.156	.077

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	45		-.552	9999.000	6452.916	0	9999.000
1	e*	25		-.252	4.475	2629.297	20	.462
2	e*	1		-.087	1.043	1697.996	5	.834
3	e	0	425.233		.945	1244.628	5	.779
4	e	0	265.829		.763	1156.593	1	.871
5	e	0	230.852		.208	1137.685	1	1.119
6	e	0	228.808		.058	1136.559	1	1.074
7	e	0	229.887		.009	1136.540	1	1.016
8	e	0	229.783		.000	1136.540	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	100	1136.540	428	.000	2.655
Saturated model	528	.000	0		
Independence model	32	6327.126	496	.000	12.756

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.060	.828	.788	.671
Saturated model	.000	1.000		
Independence model	.368	.209	.158	.196

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.820	.792	.880	.859	.878
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.863	.708	.758
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	708.540	612.411	812.318
Saturated model	.000	.000	.000
Independence model	5831.126	5577.869	6090.835

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	3.285	2.048	1.770	2.348
Saturated model	.000	.000	.000	.000
Independence model	18.286	16.853	16.121	17.604

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.069	.064	.074	.000
Independence model	.184	.180	.188	.000

AIC

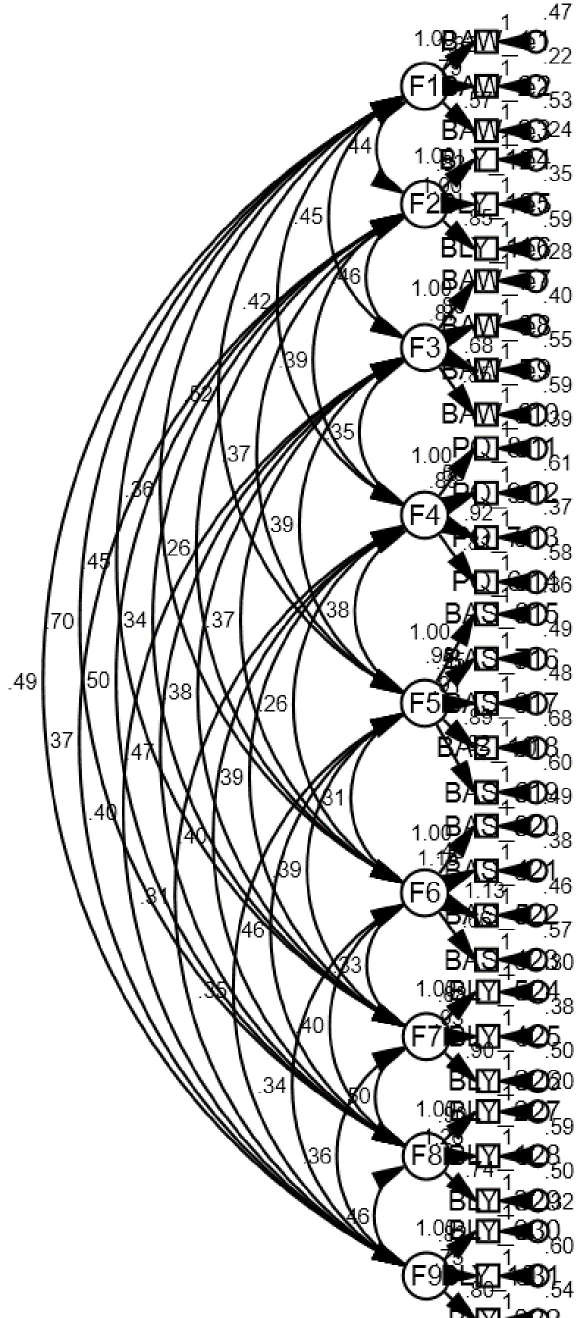
Model	AIC	BCC	BIC	CAIC
Default model	1336.540	1357.626	1721.472	1821.472
Saturated model	1056.000	1167.335	3088.443	3616.443
Independence model	6391.126	6397.874	6514.304	6546.304

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	3.863	3.585	4.163	3.924
Saturated model	3.052	3.052	3.052	3.374
Independence model	18.471	17.740	19.222	18.491

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	146	152
Independence model	31	32


F1
F2
F3
F4
F5
F6
F7
F8
F9

APPENDIX XX: CBBE Measurement Model Second Fitness Test

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
PQU5	<---	F1	1.000				
PQU6	<---	F1	1.137	.117	9.713	***	
PQU7	<---	F1	1.284	.128	10.048	***	
PQU8	<---	F1	1.138	.125	9.079	***	
LOYQ10	<---	F2	1.000				
LOYQ11	<---	F2	1.449	.165	8.783	***	
LOYQ12	<---	F2	1.635	.173	9.450	***	
LOYQ13	<---	F2	1.645	.176	9.336	***	
BAWQ5	<---	F3	1.000				
BAWQ6	<---	F3	1.267	.111	11.441	***	
BAWQ7	<---	F3	1.484	.122	12.208	***	
BAWQ8	<---	F3	1.241	.116	10.671	***	
BAW_1	<---	F4	1.000				
BAW_2	<---	F4	.760	.051	15.018	***	
BASQ7	<---	F4	.446	.051	8.767	***	

			Estimate	S.E.	C.R.	P	Label
BASQ8	<---	F4	.453	.048	9.529	***	
LOYQ9	<---	F5	1.000				
LOYQ8	<---	F5	.923	.102	9.068	***	
LOYQ4	<---	F6	1.000				
LOYQ5	<---	F6	1.170	.085	13.815	***	
LOYQ6	<---	F6	1.035	.081	12.720	***	
BASQ1	<---	F7	1.000				
BASQ3	<---	F7	1.454	.184	7.921	***	
BASQ4	<---	F7	1.617	.196	8.256	***	
BASQ5	<---	F7	1.584	.197	8.058	***	
BASQ9	<---	F7	1.246	.171	7.289	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
PQU5	<---	F1	.595
PQU6	<---	F1	.720
PQU7	<---	F1	.771
PQU8	<---	F1	.646

			Estimate
LOYQ10	<---	F2	.511
LOYQ11	<---	F2	.712
LOYQ12	<---	F2	.855
LOYQ13	<---	F2	.820
BAWQ5	<---	F3	.632
BAWQ6	<---	F3	.770
BAWQ7	<---	F3	.871
BAWQ8	<---	F3	.699
BAW_1	<---	F4	.843
BAW_2	<---	F4	.835
BASQ7	<---	F4	.487
BASQ8	<---	F4	.525
LOYQ9	<---	F5	.781
LOYQ8	<---	F5	.747
LOYQ4	<---	F6	.741
LOYQ5	<---	F6	.862
LOYQ6	<---	F6	.738

			Estimate
BASQ1	<---	F7	.498
BASQ3	<---	F7	.664
BASQ4	<---	F7	.729
BASQ5	<---	F7	.689
BASQ9	<---	F7	.567

Intercepts: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
PQU5	3.643	.052	70.562	***	
PQU6	3.692	.048	76.136	***	
PQU7	3.651	.051	71.376	***	
PQU8	3.628	.054	67.078	***	
LOYQ10	3.666	.055	66.693	***	
LOYQ11	3.798	.057	66.473	***	
LOYQ12	3.821	.054	71.165	***	
LOYQ13	3.755	.056	66.645	***	
BAWQ5	3.758	.052	72.602	***	
BAWQ6	3.660	.054	67.993	***	

	Estimate	S.E.	C.R.	P	Label
BAWQ7	3.648	.056	65.447	***	
BAWQ8	3.654	.058	62.955	***	
BAW_1	3.320	.070	47.720	***	
BAW_2	3.510	.053	65.825	***	
BASQ7	3.559	.054	66.345	***	
BASQ8	3.680	.051	72.755	***	
LOYQ9	3.579	.056	64.336	***	
LOYQ8	3.614	.054	67.252	***	
LOYQ4	3.527	.053	66.433	***	
LOYQ5	3.533	.053	66.163	***	
LOYQ6	3.559	.055	64.502	***	
BASQ1	3.732	.046	80.885	***	
BASQ3	3.804	.050	75.534	***	
BASQ4	3.723	.051	73.034	***	
BASQ5	3.614	.053	68.318	***	
BASQ9	3.744	.050	74.163	***	

Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
F5 <--> F6	.206	.042	4.850	***	
F4 <--> F5	.416	.068	6.135	***	
F3 <--> F4	.220	.044	4.958	***	
F2 <--> F3	.157	.028	5.600	***	
F1 <--> F2	.152	.028	5.468	***	
F4 <--> F6	.323	.055	5.824	***	
F2 <--> F4	.226	.044	5.174	***	
F2 <--> F6	.095	.025	3.851	***	
F1 <--> F6	.201	.034	5.904	***	
F3 <--> F5	.196	.037	5.242	***	
F2 <--> F5	.157	.034	4.656	***	
F1 <--> F5	.189	.038	5.034	***	
F1 <--> F4	.298	.050	5.978	***	
F1 <--> F3	.120	.025	4.790	***	
F7 <--> F1	.121	.023	5.236	***	
F7 <--> F5	.178	.032	5.492	***	
F7 <--> F6	.142	.026	5.472	***	

	Estimate	S.E.	C.R.	P	Label
F7 <--> F4	.224	.040	5.602	***	
F7 <--> F3	.130	.023	5.547	***	
F7 <--> F2	.096	.020	4.779	***	

Correlations: (Group number 1 - Default model)

	Estimate
F5 <--> F6	.348
F4 <--> F5	.471
F3 <--> F4	.331
F2 <--> F3	.495
F1 <--> F2	.509
F4 <--> F6	.405
F2 <--> F4	.396
F2 <--> F6	.249
F1 <--> F6	.481
F3 <--> F5	.399

	Estimate
F2 <--> F5	.372
F1 <--> F5	.410
F1 <--> F4	.479
F1 <--> F3	.345
F7 <--> F1	.496
F7 <--> F5	.516
F7 <--> F6	.452
F7 <--> F4	.481
F7 <--> F3	.500
F7 <--> F2	.431

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
F1	.327	.059	5.552	***	
F2	.273	.057	4.779	***	
F3	.370	.060	6.165	***	
F4	1.189	.135	8.829	***	
F5	.654	.098	6.669	***	

	Estimate	S.E.	C.R.	P	Label
F6	.536	.072	7.447	***	
F7	.183	.041	4.511	***	
e1	.595	.052	11.524	***	
e2	.392	.040	9.884	***	
e3	.367	.042	8.724	***	
e4	.589	.054	11.005	***	
e5	.772	.062	12.449	***	
e6	.557	.050	11.033	***	
e7	.269	.036	7.407	***	
e8	.360	.041	8.692	***	
e9	.557	.047	11.822	***	
e10	.409	.041	10.073	***	
e11	.260	.038	6.815	***	
e12	.596	.053	11.199	***	
e13	.486	.070	6.967	***	
e14	.297	.041	7.250	***	
e15	.760	.061	12.457	***	

	Estimate	S.E.	C.R.	P	Label
e16	.641	.052	12.296	***	
e17	.417	.071	5.863	***	
e18	.442	.064	6.925	***	
e19	.439	.044	10.048	***	
e20	.253	.041	6.183	***	
e21	.479	.047	10.111	***	
e22	.554	.045	12.178	***	
e23	.491	.045	10.797	***	
e24	.421	.043	9.743	***	
e25	.509	.049	10.448	***	
e26	.598	.051	11.746	***	

Modification Indices (Group number 1 - Default model); Covariances (Group number 1 - Default model)

			M.I.	Par Change
F3	<-->	F6	28.245	.100
e26	<-->	F4	4.606	.093
e26	<-->	F1	4.602	.049
e26	<-->	F7	12.466	-.058

	M.I.	Par Change
e25 <--> F4	6.962	.110
e25 <--> e26	6.613	-.086
e24 <--> F3	5.340	-.048
e24 <--> F7	6.891	.037
e24 <--> e26	7.143	-.084
e24 <--> e25	19.057	.130
e23 <--> F4	6.863	-.106
e23 <--> F7	5.570	.035
e23 <--> e25	6.628	-.080
e23 <--> e24	10.668	.095
e22 <--> F3	4.178	.045
e22 <--> e25	11.617	-.109
e22 <--> e24	9.600	-.092
e22 <--> e23	11.103	.104
e20 <--> F3	5.295	.044
e19 <--> F3	6.917	.055
e19 <--> F2	5.282	.042

	M.I.	Par Change
e18 <--> F2	7.330	-.054
e18 <--> e21	12.149	.113
e17 <--> F2	6.545	.052
e17 <--> e22	4.279	.069
e17 <--> e21	7.103	-.088
e16 <--> F6	6.160	.074
e16 <--> F4	20.620	-.199
e16 <--> F3	4.105	.048
e16 <--> F7	5.118	.039
e16 <--> e26	47.053	.246
e16 <--> e24	7.971	-.091
e16 <--> e22	4.653	.073
e15 <--> F6	4.077	.065
e15 <--> F4	14.706	-.182
e15 <--> F1	9.133	.076
e15 <--> F7	4.634	.040
e15 <--> e26	6.992	.103

	M.I.	Par Change
e15 <--> e16	93.152	.380
e14 <--> e16	10.609	-.095
e14 <--> e15	31.595	-.178
e13 <--> F4	4.559	.092
e13 <--> F1	4.391	-.051
e13 <--> e23	4.343	-.073
e13 <--> e16	23.151	-.181
e13 <--> e15	5.348	-.095
e13 <--> e14	23.010	.132
e12 <--> F1	6.142	.058
e12 <--> e25	4.285	.072
e12 <--> e18	4.162	.071
e12 <--> e17	5.263	-.082
e11 <--> F6	4.036	.048
e11 <--> e19	4.421	.054
e11 <--> e12	17.530	.117
e10 <--> F6	7.163	.068

			M.I.	Par Change
e10	<-->	F1	5.050	-.045
e10	<-->	e12	20.356	-.139
e9	<-->	F2	5.215	.045
e9	<-->	e12	10.465	-.111
e9	<-->	e11	12.375	-.094
e9	<-->	e10	48.016	.204
e8	<-->	F5	7.484	-.084
e8	<-->	e26	5.566	.072
e8	<-->	e25	5.290	-.068
e8	<-->	e17	7.259	-.082
e8	<-->	e12	4.082	.063
e7	<-->	F5	12.443	-.099
e7	<-->	e24	6.415	-.064
e7	<-->	e18	6.938	-.072
e7	<-->	e14	6.381	.058
e7	<-->	e8	4.602	.048
e6	<-->	F5	11.027	.116

			M.I.	Par Change
e6	<-->	e23	13.206	-.119
e6	<-->	e17	13.633	.129
e6	<-->	e14	4.140	-.058
e6	<-->	e12	5.037	-.080
e6	<-->	e8	7.016	-.078
e5	<-->	F5	71.103	.332
e5	<-->	F1	7.888	-.071
e5	<-->	e24	4.359	.074
e5	<-->	e17	47.626	.270
e5	<-->	e15	6.240	.108
e5	<-->	e14	7.940	-.091
e5	<-->	e7	4.507	-.065
e5	<-->	e6	13.540	.142
e4	<-->	e12	11.336	.123
e4	<-->	e10	4.563	-.067
e3	<-->	e11	5.879	.061
e3	<-->	e9	8.341	-.086

			M.I.	Par Change
e3	<-->	e4	32.156	.173
e2	<-->	e26	4.537	.065
e2	<-->	e9	6.772	.076
e2	<-->	e5	8.475	-.098
e2	<-->	e4	5.646	-.072
e1	<-->	F2	6.901	.054
e1	<-->	e26	9.509	.109
e1	<-->	e19	12.227	.112
e1	<-->	e11	8.711	-.085
e1	<-->	e9	12.829	.122
e1	<-->	e4	26.437	-.183
e1	<-->	e3	7.904	-.085
e1	<-->	e2	31.093	.168

Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
BASQ9	<---	F6	5.412	.150
BASQ9	<---	F4	10.228	.138

		M.I.	Par Change
BASQ9	<--- F2	11.608	.304
BASQ9	<--- F1	13.771	.312
BASQ5	<--- F4	5.558	.098
BASQ4	<--- F3	6.346	-.174
BASQ4	<--- F2	4.492	-.170
BASQ4	<--- F1	5.277	-.174
BASQ3	<--- F4	8.936	-.121
BASQ1	<--- F3	4.350	.152
LOYQ4	<--- F5	4.612	.119
LOYQ4	<--- F3	23.226	.334
LOYQ4	<--- F2	19.964	.361
LOYQ4	<--- F1	9.953	.240
LOYQ4	<--- F7	8.549	.297
BASQ8	<--- F6	13.945	.244
BASQ8	<--- F5	10.516	.202
BASQ8	<--- F3	15.296	.305
BASQ8	<--- F2	16.605	.370

			M.I.	Par Change
BASQ8	<---	F1	21.030	.392
BASQ8	<---	F7	25.091	.573
BASQ8	<---	BASQ7	4.962	.027
BASQ7	<---	F6	12.898	.254
BASQ7	<---	F5	6.037	.166
BASQ7	<---	F3	5.910	.205
BASQ7	<---	F2	7.267	.265
BASQ7	<---	F1	20.996	.425
BASQ7	<---	F7	17.597	.520
BAW_2	<---	F6	4.019	-.106
BAW_1	<---	F3	7.607	-.226
BAW_1	<---	F2	6.343	-.240
BAW_1	<---	F1	9.204	-.273
BAW_1	<---	F7	5.653	-.286
BAWQ8	<---	F6	5.017	.147
BAWQ8	<---	F4	6.092	.108
BAWQ8	<---	F1	10.747	.281

	M.I.	Par Change
BAWQ6 <--- F6	4.382	.118
BAWQ5 <--- F2	4.266	.178
LOYQ12 <--- F6	5.491	-.120
LOYQ12 <--- F5	13.832	-.182
LOYQ12 <--- F7	5.934	-.218
LOYQ11 <--- F5	9.072	.183
LOYQ10 <--- F5	56.940	.515
LOYQ10 <--- F7	10.715	.409
LOYQ10 <--- LOYQ9	5.727	.031
PQU5 <--- F2	4.740	.195

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	26		-.535	9999.000	4873.606	0	9999.000
1	e	16		-.226	3.737	2269.742	20	.471
2	e*	2		-.027	1.178	1522.745	5	.793
3	e	0	1591.810		.779	1255.430	5	.807
4	e	0	270.959		1.224	1230.112	3	.000

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
5	e	0	708.059		.881	1112.578	1	1.097
6	e	0	1035.915		.331	1098.456	1	1.083
7	e	0	1258.948		.105	1097.892	1	1.047
8	e	0	1257.281		.018	1097.886	1	1.016
9	e	0	1271.726		.000	1097.886	1	1.001

APPENDIX XXI: Re-Specified CBBE Measurement Fitness Test Output

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
BAW_1	<---	F1	1.000				
BAW_2	<---	F1	.793	.042	18.677	***	
BAWQ3	<---	F1	.573	.042	13.564	***	
BAWQ6	<---	F3	1.000				
BAWQ5	<---	F3	.749	.079	9.540	***	
PQU8	<---	F4	1.000				
PQU7	<---	F4	1.132	.098	11.542	***	
PQU6	<---	F4	1.033	.096	10.719	***	
BASQ8	<---	F5	1.000				

			Estimate	S.E.	C.R.	P	Label
BASQ7	<---	F5	.921	.071	12.975	***	
BASQ9	<---	F5	.847	.068	12.496	***	
BASQ3	<---	F6	1.000				
BASQ4	<---	F6	1.252	.107	11.749	***	
BASQ5	<---	F6	1.223	.107	11.451	***	
LOYQ5	<---	F7	1.000				
LOYQ4	<---	F7	1.129	.087	12.918	***	
LOYQ2	<---	F8	1.000				
LOYQ1	<---	F8	1.266	.064	19.718	***	
LOYQ3	<---	F8	.735	.049	15.009	***	
LOYQ9	<---	F9	1.000				
LOYQ10	<---	F9	.737	.065	11.287	***	
LOYQ8	<---	F9	.792	.066	12.080	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
BAW_1	<---	F1	.860
BAW_2	<---	F1	.890

			Estimate
BAWQ3	<---	F1	.672
BAWQ6	<---	F3	.911
BAWQ5	<---	F3	.710
PQU8	<---	F4	.677
PQU7	<---	F4	.812
PQU6	<---	F4	.702
BASQ8	<---	F5	.826
BASQ7	<---	F5	.718
BASQ9	<---	F5	.692
BASQ3	<---	F6	.663
BASQ4	<---	F6	.814
BASQ5	<---	F6	.770
LOYQ5	<---	F7	.752
LOYQ4	<---	F7	.854
LOYQ2	<---	F8	.902
LOYQ1	<---	F8	.845
LOYQ3	<---	F8	.701

	Estimate
LOYQ9 <--- F9	.855
LOYQ10 <--- F9	.650
LOYQ8 <--- F9	.703

Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
F8 <--> F9	.457	.062	7.381	***	
F7 <--> F8	.478	.058	8.167	***	
F6 <--> F7	.275	.042	6.558	***	
F5 <--> F6	.279	.042	6.670	***	
F4 <--> F5	.333	.046	7.262	***	
F3 <--> F4	.246	.045	5.496	***	
F7 <--> F9	.322	.052	6.186	***	
F5 <--> F7	.356	.049	7.280	***	
F3 <--> F5	.334	.051	6.500	***	
F1 <--> F3	.376	.069	5.419	***	
F6 <--> F9	.306	.047	6.481	***	
F4 <--> F6	.193	.035	5.491	***	

	Estimate	S.E.	C.R.	P	Label
F1 <--> F4	.349	.058	6.009	***	
F5 <--> F9	.361	.054	6.730	***	
F1 <--> F5	.513	.068	7.542	***	
F4 <--> F9	.246	.046	5.348	***	
F3 <--> F9	.348	.058	6.019	***	
F1 <--> F9	.492	.074	6.601	***	
F6 <--> F8	.370	.050	7.397	***	
F5 <--> F8	.438	.055	7.885	***	
F4 <--> F8	.335	.049	6.770	***	
F3 <--> F8	.391	.058	6.704	***	
F1 <--> F8	.698	.081	8.662	***	
F4 <--> F7	.307	.045	6.831	***	
F3 <--> F7	.324	.051	6.366	***	
F1 <--> F7	.391	.064	6.158	***	
F3 <--> F6	.289	.045	6.396	***	
F1 <--> F6	.340	.056	6.074	***	

Correlations: (Group number 1 - Default model)

			Estimate
F8	<-->	F9	.529
F7	<-->	F8	.675
F6	<-->	F7	.573
F5	<-->	F6	.552
F4	<-->	F5	.635
F3	<-->	F4	.405
F7	<-->	F9	.473
F5	<-->	F7	.605
F3	<-->	F5	.464
F1	<-->	F3	.358
F6	<-->	F9	.521
F4	<-->	F6	.449
F1	<-->	F4	.455
F5	<-->	F9	.502
F1	<-->	F5	.566
F4	<-->	F9	.404
F3	<-->	F9	.419

			Estimate
F1	<-->	F9	.468
F6	<-->	F8	.607
F5	<-->	F8	.586
F4	<-->	F8	.530
F3	<-->	F8	.452
F1	<-->	F8	.639
F4	<-->	F7	.617
F3	<-->	F7	.475
F1	<-->	F7	.455
F3	<-->	F6	.493
F1	<-->	F6	.459

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
F1	1.326	.140	9.449	***	
F3	.832	.106	7.838	***	
F4	.445	.069	6.469	***	
F5	.620	.073	8.520	***	

	Estimate	S.E.	C.R.	P	Label
F6	.413	.065	6.388	***	
F7	.557	.075	7.413	***	
F8	.899	.087	10.315	***	
F9	.832	.097	8.592	***	
e1	.465	.060	7.699	***	
e2	.218	.035	6.284	***	
e3	.530	.045	11.793	***	
e8	.170	.076	2.233	.026	
e9	.460	.055	8.394	***	
e11	.526	.050	10.566	***	
e13	.294	.041	7.262	***	
e14	.487	.048	10.143	***	
e15	.289	.039	7.514	***	
e16	.493	.048	10.330	***	
e17	.484	.045	10.747	***	
e20	.528	.048	11.033	***	
e21	.330	.043	7.717	***	

	Estimate	S.E.	C.R.	P	Label
e22	.425	.047	9.054	***	
e24	.429	.046	9.237	***	
e25	.265	.047	5.664	***	
e27	.207	.032	6.484	***	
e28	.579	.064	9.075	***	
e29	.502	.043	11.710	***	
e30	.305	.055	5.586	***	
e31	.618	.056	11.005	***	
e32	.533	.053	10.147	***	

Covariances: (Group number 1 - Default model)

			M.I.	Par Change
e31	<-->	e32	5.291	-.082
e25	<-->	F8	5.353	.058
e25	<-->	e29	5.608	.065
e24	<-->	F8	8.113	-.078
e24	<-->	F1	4.091	.077
e24	<-->	e29	7.388	-.080

	M.I.	Par Change
e22 <--> F6	4.796	-.047
e21 <--> F6	4.633	.041
e21 <--> F3	4.292	-.066
e21 <--> e27	4.167	-.046
e20 <--> F1	6.027	-.099
e20 <--> e28	7.243	-.098
e20 <--> e27	4.949	.056
e20 <--> e22	12.235	-.107
e20 <--> e21	8.081	.080
e17 <--> F6	6.610	.059
e17 <--> F5	6.365	-.065
e17 <--> e27	6.768	.063
e17 <--> e20	9.973	.100
e16 <--> e31	5.484	.081
e16 <--> e17	14.769	-.118
e15 <--> F6	4.616	-.043
e15 <--> F5	4.174	.043

			M.I.	Par Change
e15	<-->	e29	6.072	.065
e15	<-->	e21	6.464	-.063
e15	<-->	e16	5.573	.062
e14	<-->	e25	10.012	.089
e14	<-->	e17	8.475	.091
e14	<-->	e15	4.822	-.060
e13	<-->	e31	6.726	-.079
e11	<-->	e14	4.237	-.066
e9	<-->	F4	10.228	.076
e9	<-->	e14	6.459	.077
e9	<-->	e13	6.239	.066
e8	<-->	F4	5.449	-.054
e8	<-->	e13	5.723	-.061
e3	<-->	F5	9.582	.084
e3	<-->	F1	6.072	-.096
e3	<-->	e31	15.165	.134
e3	<-->	e29	5.483	.071

			M.I.	Par Change
e3	<-->	e16	7.726	.088
e2	<-->	e31	8.045	-.078
e2	<-->	e28	6.543	-.073
e2	<-->	e16	11.183	-.084
e2	<-->	e13	7.755	.061
e2	<-->	e9	4.343	.050
e1	<-->	e29	4.209	-.067
e1	<-->	e28	16.561	.157
e1	<-->	e20	5.602	-.081
e1	<-->	e16	4.852	.075
e1	<-->	e3	5.901	-.080

Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
LOYQ8	<---	LOYQ2	4.650	.088
LOYQ10	<---	BAWQ3	6.887	.120
LOYQ9	<---	LOYQ2	4.143	-.078
LOYQ3	<---	BASQ8	6.831	.110

			M.I.	Par Change
LOYQ3	<---	PQU6	4.186	.083
LOYQ1	<---	BASQ3	6.821	-.127
LOYQ1	<---	BAW_1	4.190	.072
LOYQ4	<---	PQU6	4.202	.077
LOYQ5	<---	LOYQ3	5.322	-.092
BASQ5	<---	F8	5.669	.106
BASQ5	<---	F1	7.445	.101
BASQ5	<---	LOYQ1	4.319	.059
BASQ5	<---	LOYQ2	6.251	.096
BASQ5	<---	BASQ3	6.255	-.104
BASQ5	<---	BAW_2	8.751	.116
BASQ5	<---	BAW_1	5.800	.072
BASQ4	<---	F3	5.225	-.101
BASQ4	<---	LOYQ2	5.543	-.084
BASQ4	<---	BASQ3	4.226	.080
BASQ4	<---	BASQ8	6.740	-.102
BASQ4	<---	BAWQ5	6.162	-.097

			M.I.	Par Change
BASQ4	<---	BAWQ6	4.389	-.079
BASQ3	<---	BASQ9	6.789	.113
BASQ3	<---	BAW_1	5.010	-.070
BASQ9	<---	F7	4.437	.125
BASQ9	<---	F6	7.825	.193
BASQ9	<---	LOYQ2	6.010	.094
BASQ9	<---	LOYQ4	4.797	.090
BASQ9	<---	BASQ4	8.625	.120
BASQ9	<---	BASQ3	15.222	.163
BASQ9	<---	BASQ7	6.141	-.099
BASQ9	<---	PQU6	8.788	.122
BASQ7	<---	BASQ9	6.805	-.112
BASQ7	<---	BAWQ3	4.901	.093
BASQ8	<---	F6	4.849	-.133
BASQ8	<---	BASQ4	8.147	-.103
BASQ8	<---	PQU6	6.251	-.091
PQU6	<---	BAWQ5	6.047	.106

			M.I.	Par Change
PQU7	<---	LOYQ10	5.652	-.083
PQU8	<---	F6	4.178	.147
PQU8	<---	BASQ5	4.344	.086
BAWQ5	<---	F4	5.911	.158
BAWQ5	<---	PQU6	10.181	.128
BAWQ5	<---	PQU7	8.797	.125
BAWQ6	<---	PQU7	5.928	-.100
BAWQ3	<---	F9	4.066	.099
BAWQ3	<---	F6	6.744	.181
BAWQ3	<---	F5	10.479	.184
BAWQ3	<---	LOYQ10	15.767	.157
BAWQ3	<---	LOYQ3	6.417	.104
BAWQ3	<---	BASQ4	7.517	.114
BAWQ3	<---	BASQ3	7.467	.115
BAWQ3	<---	BASQ9	7.578	.117
BAWQ3	<---	BASQ7	15.168	.158
BAWQ3	<---	BASQ8	6.282	.108

			M.I.	Par Change
BAW_2	<---	LOYQ10	9.314	-.097
BAW_2	<---	LOYQ1	5.672	-.055
BAW_2	<---	BASQ7	9.587	-.100
BAW_1	<---	LOYQ1	6.073	.076

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	36		-.427	9999.000	4121.252	0	9999.000
1	e*	10		-.115	3.595	1411.211	20	.573
2	e*	0	501.785		1.273	705.763	5	.691
3	e	1		-.377	1.080	544.615	2	.000
4	e	0	395.837		.333	415.036	12	1.085
5	e	0	170.653		.513	395.978	1	.752
6	e	0	159.052		.226	388.327	1	1.132

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
7	e	0	156.572		.101	387.787	1	1.042
8	e	0	154.968		.006	387.778	1	1.001
9	e	0	154.911		.000	387.778	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	72	387.778	181	.000	2.142
Saturated model	253	.000	0		
Independence model	22	3873.273	231	.000	16.767

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.049	.909	.873	.650
Saturated model	.000	1.000		
Independence model	.377	.270	.200	.246

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.900	.872	.944	.928	.943
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.784	.705	.739
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	206.778	153.892	267.414
Saturated model	.000	.000	.000
Independence model	3642.273	3444.187	3847.662

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.121	.598	.445	.773
Saturated model	.000	.000	.000	.000

Model	FMIN	F0	LO 90	HI 90
Independence model	11.194	10.527	9.954	11.120

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.057	.050	.065	.060
Independence model	.213	.208	.219	.000

AIC

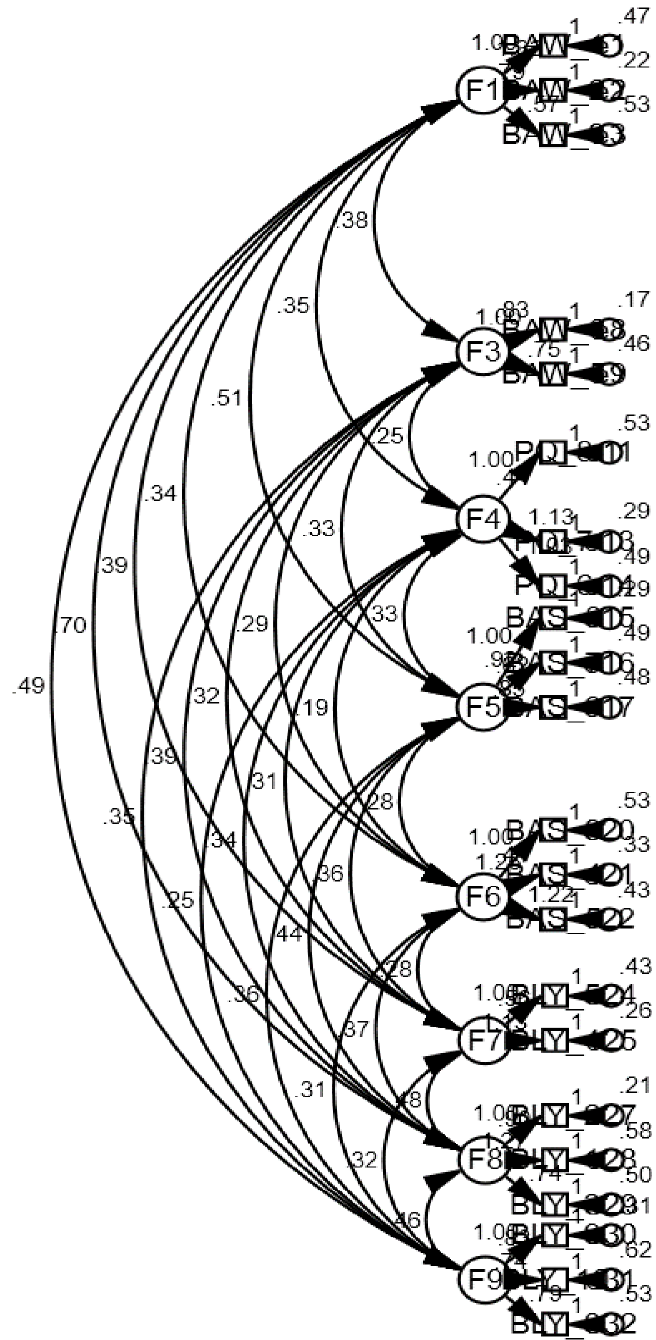
Model	AIC	BCC	BIC	CAIC
Default model	531.778	542.032	808.929	880.929
Saturated model	506.000	542.031	1479.879	1732.879
Independence model	3917.273	3920.407	4001.959	4023.959

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.537	1.384	1.712	1.567
Saturated model	1.462	1.462	1.462	1.567
Independence model	11.322	10.749	11.915	11.331

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	191	204
Independence model	24	26


F1
F3
F4
F5
F6
F7
F8
F9

APPENDIX XXII: Overall CBBE Measurement Model Goodness Fitness Output

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
BAWQ6	<---	BRECALL	1.000				
BAWQ7	<---	BRECALL	1.322	.092	14.315	***	
BAWQ8	<---	BRECALL	1.094	.087	12.583	***	
BAW_1	<---	BRECOG	1.000				
BAW_2	<---	BRECOG	.783	.057	13.706	***	
BASQ3	<---	BAS	1.000				
BASQ4	<---	BAS	1.277	.109	11.767	***	
BASQ5	<---	BAS	1.203	.106	11.332	***	
PQU6	<---	PQ	1.000				
PQU7	<---	PQ	1.364	.116	11.735	***	
PQU8	<---	PQ	1.230	.111	11.054	***	
LOYQ11	<---	ACTENG	1.000				
LOYQ12	<---	ACTENG	1.185	.083	14.199	***	
LOYQ13	<---	ACTENG	1.177	.085	13.906	***	
LOYQ8	<---	SENCOM	1.000				
LOYQ9	<---	SENCOM	1.038	.101	10.278	***	
LOYQ4	<---	BEHLY	1.000				
LOYQ5	<---	BEHLY	1.122	.078	14.371	***	
LOYQ6	<---	BEHLY	1.001	.077	12.948	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
BAWQ6	<---	BRECALL	.715
BAWQ7	<---	BRECALL	.912
BAWQ8	<---	BRECALL	.725
BAW_1	<---	BRECOG	.871
BAW_2	<---	BRECOG	.890
BASQ3	<---	BAS	.663
BASQ4	<---	BAS	.830
BASQ5	<---	BAS	.757
PQU6	<---	PQ	.659
PQU7	<---	PQ	.849
PQU8	<---	PQ	.731
LOYQ11	<---	ACTENG	.705
LOYQ12	<---	ACTENG	.881
LOYQ13	<---	ACTENG	.836
LOYQ8	<---	SENCOM	.779
LOYQ9	<---	SENCOM	.779
LOYQ4	<---	BEHLY	.760
LOYQ5	<---	BEHLY	.848
LOYQ6	<---	BEHLY	.733

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label

			Estimate	S.E.	C.R.	P	Label
SENCOM	<-->	BEHLY	.303	.048	6.275	***	
ACTENG	<-->	SENCOM	.225	.046	4.943	***	
PQ	<-->	ACTENG	.239	.038	6.203	***	
BAS	<-->	PQ	.179	.032	5.554	***	
BRECOG	<-->	BAS	.323	.056	5.730	***	
BRECALL	<-->	BRECOG	.346	.060	5.813	***	
ACTENG	<-->	BEHLY	.252	.043	5.882	***	
BAS	<-->	ACTENG	.191	.037	5.174	***	
BRECALL	<-->	BAS	.252	.039	6.487	***	
PQ	<-->	BEHLY	.258	.039	6.626	***	
BRECOG	<-->	PQ	.318	.054	5.849	***	
BAS	<-->	BEHLY	.273	.041	6.669	***	
BRECOG	<-->	BEHLY	.403	.064	6.280	***	
BRECALL	<-->	BEHLY	.265	.042	6.390	***	
PQ	<-->	SENCOM	.224	.040	5.589	***	
BRECALL	<-->	PQ	.214	.035	6.049	***	
BAS	<-->	SENCOM	.269	.044	6.132	***	
BRECOG	<-->	SENCOM	.437	.072	6.104	***	
BRECALL	<-->	SENCOM	.299	.047	6.384	***	
BRECOG	<-->	ACTENG	.354	.063	5.617	***	
BRECALL	<-->	ACTENG	.295	.044	6.704	***	

Correlations: (Group number 1 - Default model)

			Estimate
SENCOM	<-->	BEHLY	.505
ACTENG	<-->	SENCOM	.367
PQ	<-->	ACTENG	.508
BAS	<-->	PQ	.454
BRECOG	<-->	BAS	.431
BRECALL	<-->	BRECOG	.415
ACTENG	<-->	BEHLY	.437
BAS	<-->	ACTENG	.387
BRECALL	<-->	BAS	.547
PQ	<-->	BEHLY	.562
BRECOG	<-->	PQ	.445
BAS	<-->	BEHLY	.565
BRECOG	<-->	BEHLY	.460
BRECALL	<-->	BEHLY	.493
PQ	<-->	SENCOM	.457
BRECALL	<-->	PQ	.488
BAS	<-->	SENCOM	.523
BRECOG	<-->	SENCOM	.468
BRECALL	<-->	SENCOM	.522
BRECOG	<-->	ACTENG	.396
BRECALL	<-->	ACTENG	.539

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
BRECALL	.512	.071	7.232	***	
BRECOG	1.360	.157	8.659	***	
BAS	.413	.065	6.377	***	
PQ	.375	.059	6.332	***	
ACTENG	.587	.082	7.140	***	
SENCOM	.640	.091	7.033	***	
BEHLY	.564	.073	7.746	***	
e1	.491	.045	11.018	***	
e2	.181	.040	4.487	***	
e3	.553	.051	10.855	***	
e4	.431	.091	4.741	***	
e5	.218	.055	3.992	***	
e6	.528	.048	11.005	***	
e7	.304	.043	7.003	***	
e8	.445	.048	9.273	***	
e9	.489	.044	11.046	***	
e10	.272	.044	6.230	***	
e11	.496	.050	9.849	***	
e12	.594	.053	11.261	***	
e13	.239	.038	6.262	***	
e14	.351	.043	8.172	***	
e15	.415	.062	6.707	***	
e16	.447	.067	6.694	***	

	Estimate	S.E.	C.R.	P	Label
e17	.411	.042	9.807	***	
e18	.277	.039	7.077	***	
e19	.488	.047	10.369	***	

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

			M.I.	Par Change
e17	<-->	ACTENG	6.874	.069
e16	<-->	ACTENG	5.526	.070
e16	<-->	e19	7.336	-.091
e15	<-->	ACTENG	5.534	-.068
e15	<-->	e19	11.678	.110
e13	<-->	e15	4.525	-.057
e12	<-->	SENCOM	15.549	.134
e12	<-->	e16	17.928	.152
e11	<-->	e12	4.323	.072
e9	<-->	ACTENG	5.133	.062
e8	<-->	BAS	4.234	-.046
e8	<-->	BRECOG	7.728	.120
e8	<-->	e14	4.700	-.061
e7	<-->	BRECALL	4.204	-.045
e7	<-->	e13	4.706	-.052
e6	<-->	BRECOG	5.409	-.103
e6	<-->	e12	10.565	-.112

	M.I.	Par Change
e6 <--> e8	9.055	-.093
e6 <--> e7	5.856	.067
e5 <--> e13	4.620	.047
e5 <--> e12	6.119	-.069
e5 <--> e9	5.166	.058
e3 <--> PQ	6.780	.061
e3 <--> e16	5.744	-.083
e3 <--> e12	6.353	-.088
e3 <--> e11	10.942	.110
e3 <--> e8	5.340	.075
e2 <--> e17	4.057	.050
e1 <--> PQ	4.705	-.048
e1 <--> e3	10.656	-.103

Regression Weights: (Group number 1 - Default model)

	M.I.	**Par Change**
LOYQ5 <--- ACTENG	4.870	-.110
LOYQ5 <--- LOYQ13	6.166	-.082
LOYQ5 <--- LOYQ11	4.875	-.073
LOYQ4 <--- ACTENG	10.147	.171
LOYQ4 <--- BRECALL	7.109	.152
LOYQ4 <--- LOYQ13	11.513	.121
LOYQ4 <--- LOYQ12	5.687	.089

			M.I.	Par Change
LOYQ4	<---	LOYQ11	9.770	.111
LOYQ4	<---	BAWQ7	8.076	.106
LOYQ9	<---	LOYQ6	5.162	-.097
LOYQ9	<---	LOYQ11	16.119	.162
LOYQ8	<---	LOYQ6	7.357	.111
LOYQ8	<---	LOYQ12	5.138	-.093
LOYQ13	<---	LOYQ4	4.269	.078
LOYQ12	<---	BEHLY	5.263	-.113
LOYQ12	<---	SENCOM	5.286	-.111
LOYQ12	<---	LOYQ6	7.354	-.091
LOYQ12	<---	LOYQ4	4.032	-.070
LOYQ12	<---	LOYQ8	7.219	-.090
LOYQ12	<---	PQU7	4.271	-.072
LOYQ12	<---	BASQ4	5.914	-.084
LOYQ11	<---	SENCOM	15.140	.242
LOYQ11	<---	LOYQ4	4.119	.091
LOYQ11	<---	LOYQ9	23.740	.202
LOYQ11	<---	LOYQ8	6.638	.111
LOYQ11	<---	PQU8	5.008	.096
LOYQ11	<---	BASQ4	4.398	.094
PQU8	<---	BAWQ8	4.427	.082
PQU6	<---	ACTENG	4.924	.124
PQU6	<---	LOYQ13	5.739	.089

			M.I.	Par Change
PQU6	<---	LOYQ12	5.077	.088
PQU6	<---	BAW_2	4.964	.087
BASQ5	<---	BRECOG	9.777	.116
BASQ5	<---	BASQ3	4.610	-.090
BASQ5	<---	BAW_2	10.155	.126
BASQ5	<---	BAW_1	7.410	.083
BASQ5	<---	BAWQ8	7.097	.100
BASQ5	<---	BAWQ6	4.380	.085
BASQ4	<---	BRECALL	5.488	-.129
BASQ4	<---	LOYQ12	4.074	-.073
BASQ4	<---	BAWQ8	4.621	-.074
BASQ4	<---	BAWQ7	4.858	-.079
BASQ3	<---	BAW_1	4.265	-.065
BAWQ8	<---	PQ	6.863	.199
BAWQ8	<---	PQU8	14.376	.157
BAWQ8	<---	BASQ5	5.026	.094
BAWQ8	<---	BAW_2	4.118	.085
BAWQ8	<---	BAWQ6	4.690	-.092
BAWQ7	<---	LOYQ6	5.297	-.077
BAWQ7	<---	BASQ5	4.808	-.074
BAWQ6	<---	BAWQ8	4.508	-.079

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	27		-.390	9999.000	3517.252	0	9999.000
1	e*	9		-.180	3.393	1233.248	20	.575
2	e	0	721.798		1.169	556.128	5	.776
3	e	0	253.158		.827	379.577	3	.000
4	e	0	147.243		.776	291.176	1	.905
5	e	0	119.329		.155	281.646	1	1.076
6	e	0	117.157		.020	281.452	1	1.020
7	e	0	117.866		.001	281.452	1	1.001

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	59	281.452	131	.000	2.148
Saturated model	190	.000	0		
Independence model	19	3285.797	171	.000	19.215

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.050	.924	.890	.637
Saturated model	.000	1.000		
Independence model	.362	.308	.231	.277

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.914	.888	.952	.937	.952
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.766	.700	.729
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	150.452	105.935	202.717
Saturated model	.000	.000	.000
Independence model	3114.797	2932.284	3304.626

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.813	.435	.306	.586
Saturated model	.000	.000	.000	.000
Independence model	9.497	9.002	8.475	9.551

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.058	.048	.067	.087

Model	RMSEA	LO 90	HI 90	PCLOSE
Independence model	.229	.223	.236	.000

AIC

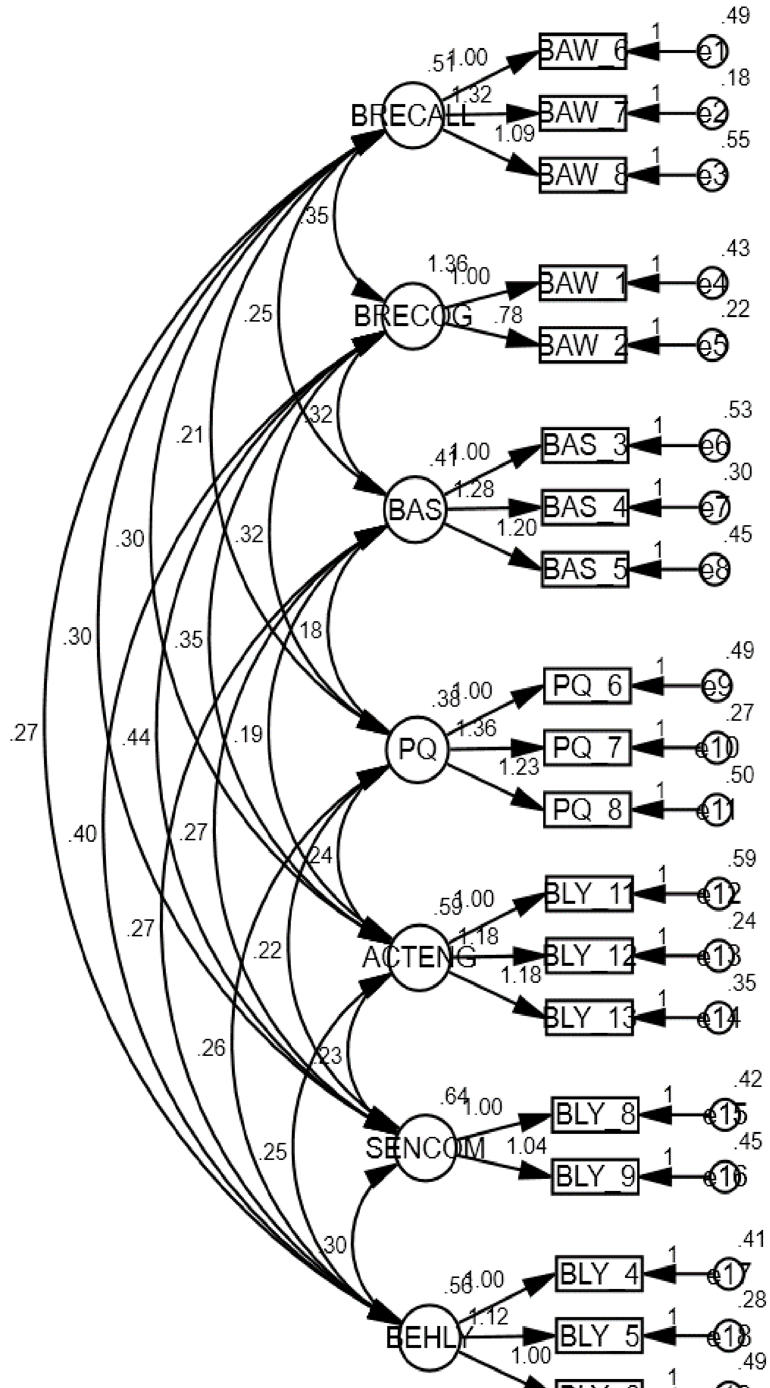
Model	AIC	BCC	BIC	CAIC
Default model	399.452	406.691	626.562	685.562
Saturated model	380.000	403.313	1111.372	1301.372
Independence model	3323.797	3326.128	3396.934	3415.934

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.154	1.026	1.306	1.175
Saturated model	1.098	1.098	1.098	1.166
Independence model	9.606	9.079	10.155	9.613

HOELTER

Model	**HOELTER .05**	**HOELTER .01**
Default model	196	211
Independence model	22	23



BRECALL
BRECOG
BAS
PQ
ACTENG
SENCOM
BEHLY
BAW_6
BAW_7
BAW_8
BAW_1
BAW_2
BAS_3
BAS_4
BAS_5
PQ_6
PQ_7
PQ_8
BLY_11
BLY_12
BLY_13
BLY_8
BLY_9
BLY_4
BLY_5

APPENDIX XXIII : Commercial Banks In Kenya

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank Kenya
6. CfC Stanbic Holdings
7. Chase Bank Kenya
8. Citibank
9. Commercial Bank of Africa
10. Consolidated Bank of Kenya
11. Cooperative Bank of Kenya
12. Credit Bank
13. Development Bank of Kenya
14. Diamond Trust Bank
15. Dubai Bank Kenya
16. Ecobank Kenya
17. Equatorial Commercial Bank
18. Equity Bank Ltd
19. Family Bank
20. Fidelity Commercial Bank Limited
21. First Community Bank
22. Giro Commercial Bank
23. Guaranty Trust Bank Kenya
24. Guardian Bank
25. Gulf African Bank
26. Habib Bank

27. Habib Bank AG Zurich
28. Housing Finance Company of Kenya
29. I&M Bank
30. Imperial Bank Kenya
31. Jamii Bora Bank
32. Kenya Commercial Bank
33. K-Rep Bank
34. Middle East Bank Kenya
35. National Bank of Kenya
36. NIC Bank
37. Oriental Commercial Bank
38. Paramount Universal Bank
39. Prime Bank (Kenya)
40. Standard Chartered Kenya
41. Trans National Bank Kenya
42. United Bank for Africa
43. Victoria Commercial Bank

Source: Cental Bank of Kenya 2015 Supervisory Report

APPENDIX XXIV : Commercial Banks Branches In Mombasa.

1. ABC Bank (Kenya
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank Kenya
6. CfC Stanbic Holdings
7. Chase Bank Kenya

8. Citibank
9. Commercial Bank of Africa
10. Consolidated Bank of Kenya
11. Cooperative Bank of Kenya
12. Credit Bank
13. Development Bank of Kenya
14. Diamond Trust Bank
15. Dubai Bank Kenya
16. Ecobank Kenya
17. Equatorial Commercial Bank
18. Equity Bank Ltd
19. Family Bank
20. Fidelity Commercial Bank Limited
21. First Community Bank
22. Giro Commercial Bank
23. Guardian Bank
24. Gulf African Bank
25. Habib Bank
26. Habib Bank AG Zurich
27. Housing Finance Company of Kenya
28. I&M Bank
29. Imperial Bank Kenya
30. Jamii Bora Bank
31. Kenya Commercial Bank
32. K-Rep Bank
33. Middle East Bank Kenya
34. National Bank of Kenya
35. NIC Bank
36. Oriental Commercial Bank

37. Paramount Universal Bank
38. Prime Bank (Kenya)
39. Standard Chartered Kenya
40. Trans National Bank Kenya