MEASURING CUSTOMER BASED BRAND EQUITY (CBBE) OF MOBILE PHONE BRANDS IN ETHIOPIA

A Thesis Submitted to Addis Ababa University
School of Commerce

Graduate Studies Program in Partial Fulfillment of the Requirements for the Award of Masters of Arts Degree in Marketing Management

By: Daniel Elyasse

June, 2018

Addis Ababa, Ethiopia

Addis Ababa University School of commerce

Graduate Program

ADDIS ABABA UNIVERSITY SCHOOL OF

COMMERCE DEPARTMENT OF MARKETING

MANAGEMENT

Measuring Customer Based Brand Equity (CBBE) of Mobile Phone Brands in Ethiopia

Prepared by: - Daniel Elyasse

APPROVED BY:

MesfinWorkneh (PhD) (ADVISOR)	**SIGNATURE**	**DATE**

EXAMINERS:

INTERNAL EXAMINER	**SIGNATURE**	**DATE**
EXTERNAL EXAMINER	**SIGNATURE**	**DATE**

Statement of Certification

This is to certify that Daniel Elyasse has carried out his research work on a topic entitled "MEASURING CUSTOMER BASED BRAND EQUITY (CBBE) OF MOBILE PHONE BRANDS IN ETHIOPIA" in partial fulfillment of the requirements for Master of Arts in Marketing Management at Addis Ababa University School of Commerce. This study is an original work and not submitted earlier for any award either at this university or any other university and is suitable for submission of Master's degree in Marketing Management.

Mesfin Workneh (PhD) _____

(Adviser) **Date & Signature**

Declaration

I, Daniel Elyasse Asemaw, hereby declare that the study entitled "MEASURING CUSTOMER BASED BRAND EQUITY (CBBE) OF MOBILE PHONE BRANDS IN ETHIOPIA: Empirical evidence from the mobile phone market in Ethiopia" is the result of my own effort in research undertaking. The study has not been submitted to any Degree or Diploma in any college or university. It is submitted in the partial fulfillment of the requirement of the Degree of Masters of Marketing Management.

Daniel Elyasse		**June, 2018**
(MA Candidate)	**Signature**	**Date**

Acknowledgments

First and above all, I would like to thank the almighty father, God for the blessings, endurance and protection provided me throughout my life. Secondly my deepest and sincerest appreciation and gratitude goes to my advisor Dr. Mesfin Workneh for his priceless suggestions, assistance and guidance throughout the undertaking of this research. I would also like to thank the customers of Mobile Phone for participating in this research work, by sharing their leisure time to fill the questionnaire. Last but not least, I would like to extend my deepest love, respect and appreciation to my beloved wife Addis Getachew and my lovely children Yohannan Daniel and Ekonian Daniel for their support, understanding and encouragement.

Thank You All!!!

Abstract

The purpose of this study was to Measure Customer Based Brand Equity (CBBE) in Ethiopian Mobile Phone Market. The study used determinants of Customer Based Brand Equity model proposed by Aaker (1991). The study focused on four determinants namely: Perceived quality, Brand Awareness, Brand Association, Brand Loyalty. As the number of Mobile Phone brands in Ethiopia is increasing in number, the study focused on 4(four) mobile phone brands namely: TECHNO, SAMSUNG, HUAWEI and SMADL. The study examined how and to what extent Aaker's Brand Equity determinants affect customers brand preference and identify factors that lead to high brand choice. Both primary and secondary data sources were applied. For primary data questionnaires were used as a main primary data source and other related literatures as secondary data. Different documents were assessed in line with the secondary data sources. The researcher distributed a structured questionnaires written in Amharic and in English and administered by the researcher and business students. Out of the total sample size, 336 response was retained for further analysis. The analysis was performed using descriptive and inferential statistics by using SPSS version 21 software with Amos graphics package; Moreover SEM (Structural Equation Modeling) was also employed to investigate the causal relationship b/n independent and dependent variables.

According to the findings of the study determinants of Customer Based Brand Equity; Brand association and Brand Loyalty have shown a significant positive effect on Overall Brand Equity. Whereas Perceived Quality and Brand Awareness were insignificant to affect CBBE of mobile phone brands. In addition, the findings show that Brand Loyalty and Brand Association have the largest impact on Overall Brand Equity. Accordingly, Marketing Managers and Brand Managers of Mobile Phone Manufacturers', importers and Wholesalers need to give more emphasis and due attention on Perceived Quality, Brand Awareness, Brand Association and Brand Loyalty so as to prioritize the firms resource and to have large market share in Ethiopian Mobile Phone Market.

Key words: *Mobile Phone, Customer Based, Brand Equity (CBBE), Brand Awareness, Perceived Quality, Brand Association, Brand, Loyalty, Overall Brand Equity, Ethiopia.*

Table of Content

List of Tables

Page

List of Graphs

List of Figures

Acronyms

ICT- Information Communication Technology

AMA- American Marketing Association

BAW- Brand Awareness

BAS- Brand Association

BL- Brand Loyalty

CBBE- Customer Based Brand Equity

DDN-Digital Data Networking

BE- Brand Equity

OBE- Overall Brand Equity

PQ- Perceived Quality

BAV-Brand Asset Valuator

SPSS-Statistical Packages for Social Science

CFA-Confirmatory Factor Analysis

SEM-Structural Equation Modeling

AMOS-Analysis of **MO**ment **S**tructure

CHAPTER ONE
INTRODUCTION

This chapter comprises Background of the study, Statement of the problem, Aim and objectives of the study, Significance of the study, and Scope of the study, Limitation of the study, Organization of the study and Definition of Terms.

1.1 Background of the Study

In consumer marketing, brands often provide the primary points of differentiation between competitive offerings, and as such they can be critical to the success of companies (Lisa, 2000). Moreover, brands create added value for both firms and customer. Brands play a key role in enhancing the value of products and protecting the product from being imitated by competitors (Aaker, 1991). In fact, 'A product is something that is made in a factory; a brand is something that is bought by a customer. A product can be copied by a competitor; a brand is unique. A product can be quickly outdated; a successful brand is timeless' (Aaker, 1991, p. 1).

The importance of brand equity has been recognized in the marketing literature for at least three decades as an intangible asset that promotes firm performance (Joo-Eon, 2017). Lisa (2000) argues brand equity is one of the most interesting topics to both academic researchers and practitioners. According to Myers (2003), there are two main approaches to brand equity the financial and the customer perspective. The financial approach, or company-oriented view, which focuses on the value provided to brand owners. The other stream focuses on the customer perspective, which is defined as the relationship between the customer and the brand (Lisa, 2000).

Customer based brand equity can also be defined as "*the differential effect that brand knowledge has on consumer response to the marketing of that brand*" (Kevin, 2013, p. 69). Kevin (2013) treated customer based brand equity in a pyramid model through six building blocks of brand equity. These are brand salience, brand performance brand imagery, brand judgment, brand feelings and brand resonance. Brand resonance refers to the level of attachment the customers have with the brand and the extent of their loyalty (Kevin, 2013).

According to Aaker (1996), brand equity consists of brand awareness, perceived quality, brand loyalty, brand associations and other proprietary brand assets. The first four dimensions; brand

awareness, perceived quality, brand loyalty and brand associations make up Aaker's customer based brand equity model which has been applied for the basis of discussion in this paper. The identification of these dimensions is a vital first step in building strong brand equity. Brand equity can be created, maintained, and expanded through the enhancement of the dimensions of brand equity (Yoo et al., 2000). It is in this process of creating, maintaining and expanding brand equity that a marketing strategy employed by a firm plays a prominent role.

Technological product innovations have continuously contributed to the welfare of societies across the globe. As per literature, the Mobile phones were introduced in the mid-1980s and in the last two decades their ownership and use has increased dramatically in many parts of the world. Also, Mobile phone ownership at the end of 2005 was at near saturation levels in many areas of the world–most notably in East Asia, as over 90% of all households in South Korea, Japan and urban China own at least one Mobile phone information available in the website (ipsosinsight, 2005).

The development of mobile phones and technologies has been an extended history of innovation and advancements cropped up due to dynamic changes in consumers' needs and preferences. Mobile phones are remarkable examples of products that have changed the way people think and behave. Mobile phone devices have had one of the fastest household adoption rates of any technology in the world's modern history (Comer and Wikle, 2008). Nowadays, mobile phones have become an integral part of human daily life and personal communication across the globe.

It has been suggested (Pride et al., 2012) as cited by Raphael (2016), that despite becoming an everyday commodity, mobile phones are shopping products, requiring medium to high involvement from consumers towards its acquisition (Coulter et al., 2003; Ferreira and Coelho, 2015) as cited by (Raphael, 2016). Consumers therefore undertake substantial efforts and decision-making processes in acquiring such gadgets (Petruzzellis, 2010) as cited by (Raphael, 2016). Consequently, a multiplicity of factors is considered before, during and even after purchase of a mobile phone products. During the process of selecting and purchasing branded mobile phones, for instance, consumers generally compare such attributes as suitability, quality, price and style of the brand (Kotler and Keller, 2011).

Ethio telecom has made different phases of technological transformation since its establishment 1894. It's the oldest government owned operator in Africa and service provider in Ethiopia. Presently the company provides various services. Among this; exchange capacity, local network, fixed telephone subscription & traffic, internet service, Digital data networking (DDN) and mobile service information available from their website (ethio telecom, 2016). Mobile service package, ethio telecom mobile services include: prepaid service, satellite mobile service, international mobile roaming services, short message services (SMS), call diverting, call barring as well as call waiting services (ethio telecom, 2005).

Mobile services began in 1999 with a capacity of 36,000 lines in Addis Ababa (Dawit, 2017). Mobile phone penetration in Ethiopia is very low when compared to the other African countries information available from their website (Research ICT Africa, 2017). However, more than 58 million mobile phone subscribers owning various brands of mobile phones (Addisbiz, 2017). At the introduction of the service, the mobile phone were dominated by the Ericson brand since subscribers of the service were provided with this brand by the service provider. However in 2003, with the introduction of prepaid mobile service, customers were allowed to buy their own handsets (ethio telecom, 2005) as cited by (Amdemichael, 2014).

This study focused on Aaker's (1991) established determinants of Customer based brand equity (CBBE) model. The elements drawn by Aaker (1991) was adapted to Measure the influence of the four determinants on brand equity of mobile phones from the customers' perspective in the Ethiopia market. The rationale behind such decision was that, as to the knowledge of the researcher, except for some endeavors in recent years, almost no research was conducted in the Ethiopian market on (medium-cost–medium-involvement product category) particularly on mobile phones.

1.2 Statement of the Problem

Brand equity is considered a key indicator of the state of health of a brand, and its monitoring is believed to be an essential step in effective brand management (Aaker, 1991, 1992). In our increasingly complex world, all of us, as individuals and as business managers, face more choices with less time to make them (Keller, 2013). According to Hisham (2013), the innovation management perspective assumes that organizations can improve their long-term financial performance by heavily investing in basic and applied research in order to creatively find solutions for persistent consumer problems.

Recently Ethiopian mobile phone market face a challenge of market environment, in the form of most demanding consumer, and very tough competition mobile phone market that are imported and locally assembled. In the report (Dawit, 2017) it was shown that in Ethiopia close to 20 million mobile sets are sold annually. Dawit (2017) indicated in the report that recently 61 percent of overall mobile phone market in Ethiopia is dominated by contraband trade. On top of that, 90 percent of the devices imported to Ethiopia through contraband trade are smart phones and the rest are feature phones (Dawit, 2017).

According to the information on (Addisbiz, 2016), the largest brand faces tough competition chines and local brand as they are building the capability to cover the broad consumer segment to compete at larger level. So, it can be said that the brand equity would play a vital role in helping the mobile phone managers to obtain competitive advantage and make strategic decisions wisely.

Studies shows that there are various factors that can influence consumers' in their choice of mobile phone brands. Researchers indicates that consumers' found throughout the world greatly influenced by several factors in their mobile phone brand preference (Sata, 2013). These factors may be related to the characteristics of the consumer and the features associated with the mobile phones. According to Sata (2013), these factors include price, features, quality, brand name, durability, social factors and so on. However, this study focused on brand related factors which can be considered critical for a particular brand choice from the customer perspective.

Although some previous researches tried to analyze customer based brand equity models in different industries such as chocolate industry (Hossien, 2012), Computer, cellphone and beverages (Ulla et al., 2012), sportswear brands (Tong and Hawley, 2009) and banking sector (Abad, 2012), existing research on brand equity in mobile phone market is still spare. Despite the growing importance of the Ethiopian market in mobile phone products, the topic of how a firm builds brand equity on mobile phone brands appears to be under researched.

Similarly, studies that were conducted by postgraduate students of Addis Ababa University school of commerce focused on sectors such as Airlines, Brewery, carbonated soft drink and Bottled water industry (Milion, 2013; Bezawit, 2014; Beidemariam, 2014; Wasihun, 2014;

Yonathan, 2016; WoldeEmmanuel, 2016; Wengelawit, 2014; Ephrem, 2015). All the studies employed Aaker's (1991) four dimensional brand equity model incorporating: (brand awareness, brand association, perceived quality and brand loyalty) to examine the effect on Brand Equity (BE) in fast moving low-cost-low-involvement product category and service. Furthermore, no research were concerned about Measuring the influence of Aaker's CBBE model in the mobile phone market in developing countries like Ethiopia, which is appeared to be with the fastest growing potential market for such products.

On the other hand, the motivation behind this study was the fact that the mobile phone market in Ethiopia is currently composed of several brands which are in stiff competition with each other to take a larger share of the market by providing consumers with a wide range of brands to choose from. Consumers are faced with the task of differentiating and choosing among products and brands.

According to Wu, (2001) the preferred brand is the chosen brand among several brands of the same quality. Authors agree that brand preference is created from consumers' differentiation and comparisons between various alternatives of brands considered by them. However, it has not been clear which factors of brand equity have a strong influence on the customer's brand preference. Thus, this study attempted to measure the four determinants of Brand Equity (BE) of mobile phone brands and discover the most preferred brand in Ethiopia in mobile phone market.

1.3 Research Question

General research question

How do determinants of Customer Based Brand Equity (CBBE) affect mobile phone brands in Ethiopian mobile phone market and which dimension is the most preferred?

Specific research questions

1. How does Perceived Quality influence Brand Equity in the Ethiopian mobile phone market?
2. How does Brand Awareness influence Brand Equity in the Ethiopian mobile phone market?
3. How does Brand Association influence Brand Equity in the Ethiopian mobile phone market?

4. How does Brand Loyalty influence Brand Equity in the Ethiopian mobile phone market?
5. Among the four which factor is the most preferred Brand Equity measurement dimension from the customers' perspective?

1.4 Aim and Objectives of the Study

General Objective of the Study

The general objective of this study was to Measure the influence of the determinants of Customer Based Brand Equity (CBBE) of mobile phone brands in Ethiopia in mobile phone market and discovered the most preferred dimension.

Specific Objectives of the Study

1. To discover the extent of influence of Perceived Quality on CBBE of mobile phones in Ethiopia.
2. To examine whether Brand Awareness has positive influence on CBBE of mobile phones in Ethiopia.
3. To determine whether Brand Association has positive effect on CBBE of mobile phones in Ethiopia.
4. To find out whether Brand Loyalty has positive influence on CBBE of mobile phones in Ethiopia.
5. To identify the most preferred Brand Equity measurement dimension in the mobile phones market from the customers' perspective.

1.5 Significance of the Study

Nowadays, in a highly competitive marketing activity those mainly use branded products and services, the study of Customer's Based Brand Equity (CBBE) will be very essential for the following reasons.

Findings of this study will be useful and very important for students and academicians as an input for embarking upon similar researches in the future and also the research findings will be a helpful for literature reference for mobile phone market who wants to formulate or revise marketing strategy in the context of developing countries like Ethiopia. This study will also help as a guide for new entrants and foreign mobile phone manufacturers who have limited information regarding customers' based brand equity in the Ethiopia market. This study will

also guide manufacturers, wholesalers and agents on which elements to focus on while they are trying to position the brand favorably in the customers' mind.

Moreover, the findings from the mobile phone market in Ethiopia, can be helpful in other electronic-related industries as well, such as Tablets, iPod, accessories, and the like. It will suggest that different brand equity dimensions contribute to brand equity in different ways, and that an order will exist among the four dimensions. Since marketing/brand managers often have limited resources (e.g. money, time, and manpower) to implement branding strategies, these findings can help them prioritize and allocate resources across the dimensions.

1.6 Scope of the Study

The purpose of this research was to Measure Asker's (1991) determinants of brand equity on CBBE of mobile phone brands in Ethiopia from the customers' perspective.

Among several brand equity models in the literature, this study used the one constructed by Aaker (1991), which is the most commonly cited.

Due to homogenous nature of the mobile phone Customers' and being Addis Ababa is the capital city of the country and the availability of most of mobile phone brands; the study area was limited to Addis Ababa city.

Methodologically, the researcher used quantitative research approach only and not considered the influence of mobile phone salesmen/owners on customers' brand preference qualitatively.

1.7 Limitation of the Study

Among various brands choosing only four mobile phone brands might limit the generalization of the findings, not including more mobile phone brands which are available in the mobile phone market in Ethiopia.

The other limitation was the application of sampling technique (convenience sampling) shopping intercept survey which would probably affect the outcome of the study to be generalized; because the data was collected from certain mobile phone market areas of Addis Ababa city. However, the homogeneity of the respondent would likely overcome this limitation.

The study was limited to the mobile phone market in Ethiopia and focuses on only in Addis Ababa. Thus, future research might be done; if there are unique characteristics in the region or significant regional gaps in consumer attitudes and behaviors.

1.8 Organization of the Research Report

As shown below the study is organized into five chapters. The chapters is comprised of: Introduction, Review of related Literature, research design and methodology, Findings and Discussions and, Summary, conclusions and recommendations.

The First chapter includes a general introduction of the study including background of the study, Statement of the problem, Research questions, Objectives of the study, Significance of the study, Scope and limitation of the study, organization of the study and Definition of key Terms.

Chapter Two covered the literature relevant to the study. It included concepts and theoretical framework, empirical literature as well as discussions on the Customers' Based Brand Equity (CBBE) model and Hypotheses and conceptual framework.

Chapter Three deal with research design and methodology: the type and design of the study. It included research method sampling technique, data collection method and method of data analysis that has been used in the study and reliability and validity tests and Ethical considerations also included.

Chapter Four consists of the major presentation, analysis and interpretation of the data collected and Discussion of the findings in a more analytical manner.

Finally in chapter five conclusion, recommendation, Limitation and direction of future areas of study has been made.

1.9 Definitions of Key Terms

Brand is a name, term, sign, symbol, or design, or a combination of them intended to identify the goods or services of one seller from among a group of sellers and to differentiate them from those of the competitors (Pekka, 1999).

Brand Equity explains why different outcomes result from the marketing of a branded product or service than if it were not branded (Keller, 2013, p. 57).

Customer-Based Brand Equity (CBBE) is defined as the differential effect of brand knowledge on consumer response to the marketing of the brand in which brand knowledge is conceptualized, based on an associative network memory model in terms of two components, brand awareness and brand image (Keller, 2003, p. 60).

Brand Associations are linked sufficiently strongly to the brand will depend on how the marketing program and other factors affect customers' brand experiences (Keller, 2003, p. 71).

Brand Loyalty provides predictability and security of demand for the firm and creates barriers of entry that make it difficult for other firms to enter the market. Although manufacturing processes and product designs may be easily duplicated, lasting impressions in the minds of individuals and organizations from years of marketing activity and product experience may not be so easily reproduced (Keller, 2004, p. 35).

Perceived Quality is usually at the heart of what customers are buying and is often used to differentiate or position brands against others. It is also an important brand asset as, among all brand associations, only perceived quality has been shown to drive financial performance through the price premium that consumers are prepared to pay (Klopper, 2011, p. 38).

Brand Awareness. According to Keller (2003, p. 67), brand awareness consists of two sub–dimensions: brand recall and recognition .Brand recognition is related to picking out a brand whenever some sort of cue is provided whereas recall is done when there is no cue present.

Positive Customer Based Brand Equity can lead to greater revenue, lower cost, and higher profit; it has direct implications for the firm's ability to command higher price, a customer's willingness to seek out new distribution channels, the effectiveness of marketing communications and the success of brand extensions and licensing opportunities Keller (2004, p. 104).

CHAPTER TWO

REVIEW OF RELATED LITRATURE

This chapter provides an insight to the readers about theoretical framework, empirical review, hypotheses and conceptual framework of the topic under the study. In line with the objectives of the study, this chapter covered topics related to branding concept, brand equity perspectives, brand equity, customer based brand equity, dimensions of brand equity, relationships of brand equity and brand equity dimensions, prominent models of CBBE and relationships of brand equity and customer equity for the topic under study.

2.1 THEORETICAL REVIEW

2.1.1 Concept of Branding

Branding has existed for centuries as a way of distinguishing the goods of one producer from those of another, while modern branding finds its origins in the 19th century (Room, 1992). According to this, a brand can be treated as a legal instrument, logo, company, identity system, image, personality, relationship, and/or as adding value. A combination of all these perspectives is embodied in the (de Chernatony and McDonald, 2001), which equates a successful brand to 'an identifiable product, service, person, or place, augmented in such a way that the buyer or user perceives relevant, unique added values which match their needs most closely and its success results from being able to sustain these added values in the face of competition.'

According to Duman (2017), branding is crucial for business success more significantly today than ever before. He further explains that in today's sophisticated business environments, consumers are exposed to more choices; media and communication technologies bring more visually appealing messages about alternative products; consumers have less and less time to make choices among alternatives; and consequently, they are pushed to make less risky and simplified decisions. Accordingly, as consumers make their decisions based on brand evaluations, companies try to strengthen their brand images to influence their customers.

Park et al. (1986) have suggested that the long-term success of a brand depends on selecting a brand concept prior to market entry. These authors define brand concept in terms of firm-selected brand meaning derived from consumer needs. Specially, a brand concept consists of

an aesthetic, functional and symbolic brand (Park et al., 2013)**,** which represent distinct constructs the aesthetic brands are designed to fulfil consumer's needs for sensory pleasure (Jeon and Lee, 2016).

The functional brands should emphasize the functional performance. Prior research has defined functional value as the ability to perform functions in the everyday life of a consumer (Hirschman and Holbrook, 1982). Functional needs are defined as those that motivate the search for products that solve consumption-related problems (Park et al., 1986; Park et al., 2013). These needs are linked to basic motivations and are met by products with functional performance.

The symbolic brands should emphasize the relationship between brand and self identification. These brands can reflect a part of consumer's identities. Park et al. (2013) defined self-expressiveness brand as the brand with symbolic concept. A symbolic brand benefit is one that is designed to associate the individual with a desired group, role or self-image (Park et al., 1986). Consumers may value the prestige, exclusivity or fissionability of a brand because it relates positively to their self-concept

2.1.2 Brand Equity Perspectives

There are two principal and distinct perspectives that have been taken by academics to study brand equity, financial and customer based. Based on their perspective their definition for brand equity is also different but complimentary and both are useful in managing brand equity.

The financial perspective evaluates the asset value of a brand name that creates to the business (Farquhar et al., 1991). The financial perspective of brand equity focuses on measuring the added value in terms of cash flows, revenues, market share, or similar measures. According to Simon and Sullivan (1993), the financial perspective is a top-down approach for measuring brand equity. It uses the information that encompasses the total performance of a company, such as the firm‘s historical income statements, balance sheets and statements of cash flows. A top-down approach of this nature assumes a direct relationship between the firm‘s profitability and brand equity.

On the other side, the second perspective stated by Simon and Sullivan (1993), brand equity is a consumer-based which is a measure of brand equity based on the value consumers derive

from the brand name. The customer-based brand equity definitions approach the subject from the perspective of the consumer whether it is an individual or an organization. Researchers deal with that for a brand to have value it must be valued by consumers which imply that this perspective give emphasis on how the customer perceived about the brand rather than valued it through numbers. Consumer based perspective takes a bottom-up approach to measuring brand equity. In applying this approach, the researcher can study the branded product in itself. This comparison highlights an estimation of the products' marketing success, or efficiency.

2.1.3 Brand Equity

Brand equity is very important to companies for their existence in the contemporary business environment (Raja et al., 2017). The content and meaning of brand equity have been debated in a number of different ways and for a number of different purposes, but so far no common viewpoint has emerged (Vazquez et al., 2002; Keller, 2003). It can be discussed from the perspective of the manufacturer, retailer, or the consumer. While manufacturers and retailers are interested in the strategic implications of the brand equity, investors are more sympathetic for a financially defined concept (Cobb-Walgren and Ruble, 1995). Proponents of the financial perspective define brand equity as the total value of a brand which is a separable asset when it is sold, or included in a balance sheet (Feldwick, 1996). Alternative definitions adopting the same perspective consider brand equity as the incremental cash flows which accrue to branded products over unbranded products (Simon and Sullivan, 1993).

Aaker (1991) has discussed the role of customer commitment in brand equity management and has specifically noted that strong commitment leads to competitive advantages such as reduced marketing costs and attracting new customers. A thorough understanding of brand equity from the customer's point of view is essential for successful brand management. As Keller's (1993) pioneering work explains, positive customer-based brand equity "can lead to greater revenue, lower cost, and higher profit; it has direct implications for the firm's ability to command higher prices, a customer's willingness to seek out new distribution channels, the effectiveness of marketing communications, and the success of brand extensions and licensing opportunities."

According to Tong and Hawley (2009), different definitions of brand equity have surfaced depending on the context of its deployment. One key interpretation is that it reflects a group of assets or liabilities that are associated to a brand's name or logo. These assets have the ability to enhance or tarnish the value the product or service offers the company and/or its customers.

Brand equity has customarily been assessed from the financial perspective but researchers are now suggesting that understanding how the customer perceives this equity is arguably even more important.

2.1.4 Customers Based Brand Equity (CBBE)

The majority of studies on consumer based brand equity (CBBE) in the last two decades has more or less been developed on the basis of two theoretical frameworks: Aaker's brand equity model and Keller's consumer-based brand equity theory. Aaker was the first to tackle the brand equity concept from the consumer perspective, though the term of consumer-based brand equity was not specified in his work. He brought up the brand equity model in his seminal book of Managing Brand Equity in 1991 (Zhuowei and Liping, 2015).

According to Keller (1993), there is both an indirect and a direct approach to measuring customer-based brand equity. The indirect approach tries to identify potential sources of such equity, whereas the direct approach focuses on consumer responses to different elements of the firm's marketing program. The implications of customer-based research suggest that measures of customers' brand perceptions are accurate reflections of brand performance in the marketplace. Strong, positive customer-based brand equity has a significant influence on the financial performance of the firms (Kim and Kim, 2004). The premise is that customer-based brand equity (CBBE) can also potentially impact on cost, revenue, profit, marketing and brand extensions among other areas (Tong and Hawley, 2009).

Aaker (1991, 1996) argued that brand equity should be measured from the perspective of the consumer. The stronger the brand awareness, brand loyalty, and brand association the higher the financial value will be. In other words the value of the brand equity dimensions (i.e. especially brand awareness, brand loyalty, brand association and perceived quality) are the bases on which the financial value of the firm will depend. The CBBE model of Aaker's (1991) is one of the most accepted models used to build, maintain, sustain, and measure brand equity over time.

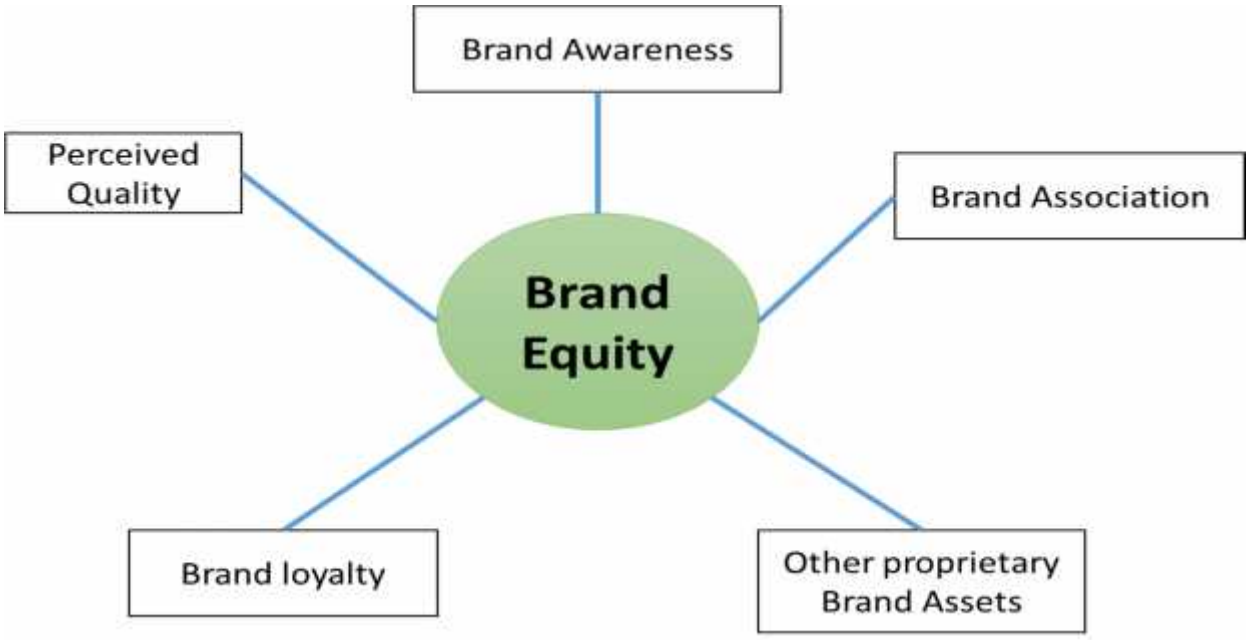
According to Netemeyer et al. (2004), consumer based perspective, brand equity is viewed from the individual consumer's viewpoint and is used to help marketers develop effective strategy to understand, meet, and influence consumer behavior. In this way, marketers could measure the consumer reactions toward a brand name. In recent years; customer-based brand equity has garnered considerable attention. Several conceptualizations exist, and these

conceptualizations have offered valuable insight into the processes that consumers evaluate and choose brands within a given product category.

2.2 Dimensions of Brand Equity

In Aaker's (1991) framework, CBBE was represented by the combination of several brand attributes including awareness, brand associations, perceived quality, brand loyalty, and other proprietary brand assets such as patents, trademarks and channel relationships. He argued that the CBBE of a brand is strong if consumers are familiar with a brand, perceive positive image including great product quality of the brand, and are loyal to the brand. The first four dimensions of brand equity represent consumer perceptions and reactions to the brand, while proprietary brand assets are not pertinent to consumer based brand equity.

Figure 2.2.1 David A. Aaker's five dimensions of brand equity model



Source: *Aaker (1991)*

However this study will use the original Aaker (1991) four brand equity dimensions excluding proprietary brand assets dimension because it is not pertinent to consumer based brand equity.

2.2.1 Perceived quality

Perceived quality is the customer's judgment about a product's overall excellence or superiority i.e. is different from objective or actual quality, a higher level abstraction rather than a specific attribute of a product, a global assessment that in some cases resembles attitude, and a judgment usually made within a consumer's evoked set (Zeithaml, 1988). That means by definition users solely evaluate the product quality, not managers and/or experts. It is the ability of a product to offer the necessary level of satisfaction better than other alternatives. As

explained by Baldauf et al. (2003), the quality of a product is a significant resource that enables the firm to achieve competitiveness. When the firm creates a brand, they need to communicate the essence of the brand with the aim of positioning it in the minds of the audience in the marketplace so as to match the characteristics of the brand to the needs and expectations of the consumers.

Hamann et al. (2007) suggested as branding contributes greatly, to provide security and assuring customers of quality of products. The development of powerful brands in a market arises from consistently providing a compelling experience to customers. The experience is achieved through the distribution channels, the product on offer, physical environment, and employee behavior and brand communication.

2.2.2 Brand Awareness

Awareness is a key determinant identified in almost all brand equity models (Aaker, 1991; Keller, 1992). It‘s obvious that as the first step in brand equity construction, without awareness a customer cannot possibly put offerings in context. Brand awareness means the ability of a consumer can recognize and recall a brand in different situations (Aaker, 1996). From this definition it can be seen that brand awareness consists of brand recall and brand recognition. While brand recall refers a situation when consumers see a product category, they can recall a brand name exactly, and brand recognition used to describe consumers ability to identify a brand when there is a brand cue (Keller, 1993). This means, consumers can tell a brand correctly if they ever saw or heard it. Brand awareness offers consumers three main advantages:

(1) Consideration advantages;

(2) Learning advantages; and

(3) Choice advantages (Keller, 2003).

Buyers are exposed to a lot of products from different brands; hence the brands that customers are familiar with are usually taken into consideration in the pecking order. The most favored brands are those that are easily recognizable or identifiable, categorized and eventually purchased (Baldauf et al., 2003).

2.2.3 Brand Association

Brand association refers to the relative strength of a consumer’s positive feelings towards the brand (Lassar et al., 1995) as cited by (Emmanuel, 2014). Brand associations consist of all brand-related thoughts, feelings, perceptions, images, experiences, beliefs, attitudes Kotler and

Keller (2006, p.188) and is anything linked in memory to a brand Aaker (1991, p.109). Aaker (1991) defines some specific areas in which Strong associations create value: first it helps process/retrieve information; that‘s why they are extremely important in time of purchase through the gathering of facts and specifications that otherwise could be difficult or even impossible to access, It can also affect the interpretation of facts and trigger thoughts about the experience by instantly gathered from memory which is crucial in times of decision-making.

A study by Hamann et al. (2007) as cited by Emmanuel (2014) reveals that buyers often patronize and are also willing to pay premium prices for those products that are branded when they have a choice to select from products that fall into the same category. According to Lassar et al. (1995) as cited by Emmanuel (2014), buyers eventually identify with the brand and they also form some emotional bond with and sentimental attachment to the brand. Consumers use the name of the brand to make inferences about the quality of a product they are not familiar with mainly because the brand name tends to build a reputation of the product as a result of the associations it has by virtue of its name and the utility or value of the product (Lassar et al., 1995) as cited by (Emmanuel, 2014).

2.2.4 Brand Loyalty

The American Marketing Association defines brand loyalty as the situation in which a consumer generally buys the same manufacturer originated product or service repeatedly over time rather than buying from multiple suppliers within the category or the degree to which a consumer consistently purchases the same brand within a product class. This definition describe that brand loyalty reflects how likely a customer will be to switch to another brand, especially when that brand makes a change in price, product features, communication, or distribution programs.

According to Jacoby & Chestnut (1978) as cited by Anne and Lars (2003), define brand loyalty as a result of two components:

1. A favorable attitude toward the brand, and
2. Repurchase of the brand overtime.

According to Day (1969) cited by Arjun (1995), the concept of brand loyalty represents a general concept which describes a consumer’s overall buying behavior patterns within a product class. It is a descriptive variable that refers to individual differences in consumers’ general shopping behavior and buying styles within a particular product class. Brand loyalty is

defined here as a consumer's preference to buy a single brand name in a product class; it is a result of the perceived quality of the brand and not its price.

2.3 Relationship between Brand Equity and Brand Equity Dimensions

2.3.1 Perceived Quality and Brand Equity

Keller (2003) define perceived quality as the quality which is observed or perceived by the consumer is called Perceived Quality. There is significant positive relationship is viewed between perceived quality and brand equity. In recent article it was viewed that in the short term, higher quality perception increase the benefits for the organization because company increase profit due to premium prices and in the long run can result in business growth e.g. company can expand there their business and market share. In another recently published research it was posted that perceived quality and brand equity is directly related. Perceived quality of strong brand force people to make decision about purchasing. Perceived quality was called as a subjective assessment from consumer point of view because it depends on their observations and satisfying needs.

Therefore from the above theoretical relationship, the researcher proposes associative relationships among the four consumer based brand equity dimensions of perceived quality, brand awareness, brand associations and brand loyalty. It is envisaged that consumers' perception of quality will be associated with their brand loyalty. The more brand loyal a consumer is, the more he/she is likely to perceive the brand as offering superior quality and vice versa. Similarly, the more favorable associations' consumers have towards a brand, the more their loyalty and vice versa. Consumers who hold favorable associations towards a brand are also likely to develop favorable perceptions of quality and vice versa.

2.3.2 Brand Awareness and Brand Equity

Brand awareness is an important component of brand equity. It refers to the ability of a potential buyer to recognize or recall a brand as a member of a certain product category (Aaker, 1991). According to Keller (1993), brand awareness consists of two sub-dimensions: brand recall and recognition. Brand recognition is the basic first step in the task of brand communication, whereby a firm communicates the product's attributes until a brand name is established with which to associate them. Brand awareness can be a sign of quality and commitment, letting customers become familiar with a brand and helping them consider it at the point of purchase (Aaker, 1991).

2.3.3 Brand Association and Brand Equity

Brand association representing a base for consumers purchasing decision about the brand to purchase or not. The consumer have a lot of things in his knowledge toward the brand (Emari and jafari, 2012). It was viewed that the relationship between the brand association and brand remembered by the consumer was highly significant and positive. In this way consumer again and again purchase and use the brand (Pouromid and Iranzadeh, 2012). In order to purchase the product consumers have a lot of things in their knowledge. In this way they purchase the product (Washbourm and plank, 2012). It is viewed that brand equity also included a brand association which is found by the researcher through the research (Tong and Hawley, 2014). Author believes that if a brand has association assist to support the brand and in this way brand has power to influence the consumers (Bridges et al., 2000).

2.3.4 Brand Loyalty and Brand Equity

Brand loyalty is very important when making strategies in marketing. The loyal customers increase benefit for the organization by implementing its work and also reduce cost. When consumer become loyal they do not think about price increase because the products satisfy their needs, also loyalty helps the organization to give response against treats e.g. competition. Keller (2003) argues that customer and brand are related and also there is a relationship in between them Invalid source specified.

According to Keller (2003), Brand equity signifies the degree of attachment with customer and it is linked to its use experience. Consumer preference to repurchase a product has initiated repetitive to buy the same product. Similarly decisions are made to purchase the same product due to brand loyalty. In other words consumer become loyal because of well-known brand to their products and brand stick. A favorable consequence of brand use creates positive brand equity that develops brand loyalty among consumer which positively creates particular feelings regarding brand preference over others.

2.4 Customer Based Brand Equity (CBBE) Models

There are several models for measuring brand equity, depending on which stage in the brand value chain is being measured. According to Avichai (2016), Academic researchers, who tend to measure customer attitudinal mindset and customer performance outcomes, mainly rely on Aaker's (1991) conceptual framework of brand equity.

Keller extended Aaker's brand equity concept and brought forward the first official definition of CBBE: Keller's (1993, 2008) CBBE model is built by "sequentially establishing six 'brand building blocks' with customers" (Keller, 2008, p. 60). The first model proposed by Keller (2003) that strong brand equity can be created by following the CBBE model (pyramid). Keller (1993) defines customer based brand equity as the differential effect of brand knowledge on consumer response to the marketing of the brand. According to Keller's model building a strong brand include four steps:-

1. Establishing the proper brand identity that is, establishing breadth and depth of brand awareness.
2. Creating the appropriate brand meaning through strong, favorable and unique brand association.
3. Eliciting positive, accessible brand responses.
4. Forging brand relationship with customers that are characterized by intense, active loyalty. achieving this four steps in turn involve establishing six brand building blocks that are brand salience, brand performance, brand imagery, brand judgment, brand feelings and brand resonance.

Brand salience: - relates to aspects of customer awareness of the brand. How easily and often is the brand evoked under various situations and circumstance? To what extent is the brand top of mind and easily recalled and recognized? What types of cues or reminders are necessary? How pervasive is the brand awareness?

Brand performance: - relates to the way in which the product or service attempt to meet customers' more functional needs. Thus, brand performance refers to the intrinsic properties of the brand in terms of inherent product or service characteristics. How well does the brand rate on objective assessment of quality? To what extent does the brand satisfy the utilitarian, aesthetic, and economic needs and wants of customers in its product or service category?

Brand imagery: - deals with the intrinsic properties of the product or service including the ways in which the brand attempt to meet customers' psychological or social needs. Brand imagery is how people think about brand abstractly rather than what they think the brand actually does, thus imagery refers to more intangible aspect of the brand.

Brand judgment: - focuses upon customers‟ personal opinion and evaluation with regard to the brand. Brand judgment involves how customers put together all the different performance and imagery association for the brand to form different kinds of opinions.

Brand feelings: - are consumers‟ emotional response and reaction with respect to the brand. Brand feelings also relate to the social currency evoked by the brand.

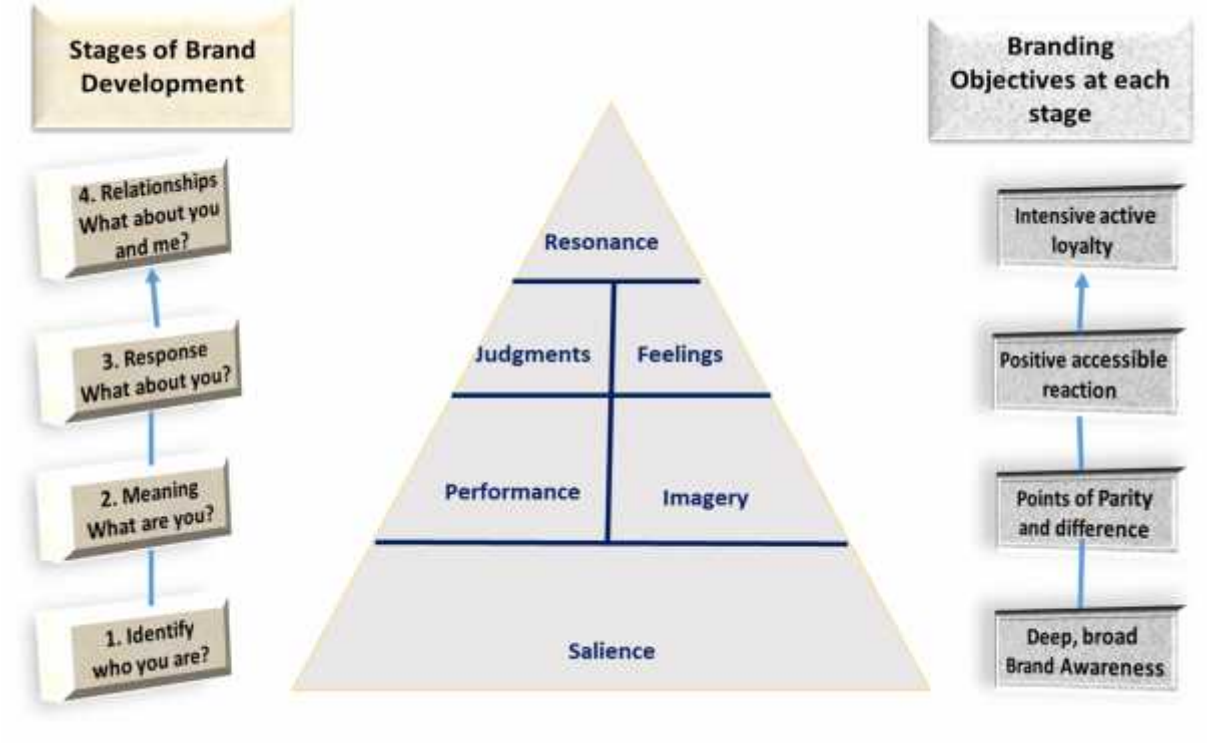
Brand resonance: - refers to the nature of the relationship that customers have with the brand and the extent to which they feel they are "in synch" with the brand. According to this model the strongest brand excel in all six of these areas and thus entail the full execution of all four steps in building a brand.

The basic premise of the model is that the power of the brand lies in what customers have learned, felt, seen and heard about the brand over time. Keller emphasizes the role of measuring consumer based brand equity to the benefits of the firm in terms of both long term and short term basis. He added that, measuring CBBE is strategic in nature and help to improve marketing productivity.

In summary, the major difference between these two models lies in brand loyalty. According to Keller, brand loyalty is an outcome of CBBE, while Aaker argued that brand loyalty is a source of CBBE. These two models have been adopted by many academic articles, research reports, and books in the past two decades, with the focus on conceptual development of the CBBE concept.

Furthermore, CBBE measurement approach argued by Keller (2003) is an indirect approach, which tries to identify potential sources of customer-based brand equities distribution channels, the effectiveness of marketing communications, and the success of brand extension by measuring brand awareness and the characteristics and relationships among brand associations. The direct approach focuses on consumer response to different elements of the firm's marketing program, hence the model is not relevant for current study.

Figure 2.4.1 Keller's Brand Resonance Model (Keller, 2013)



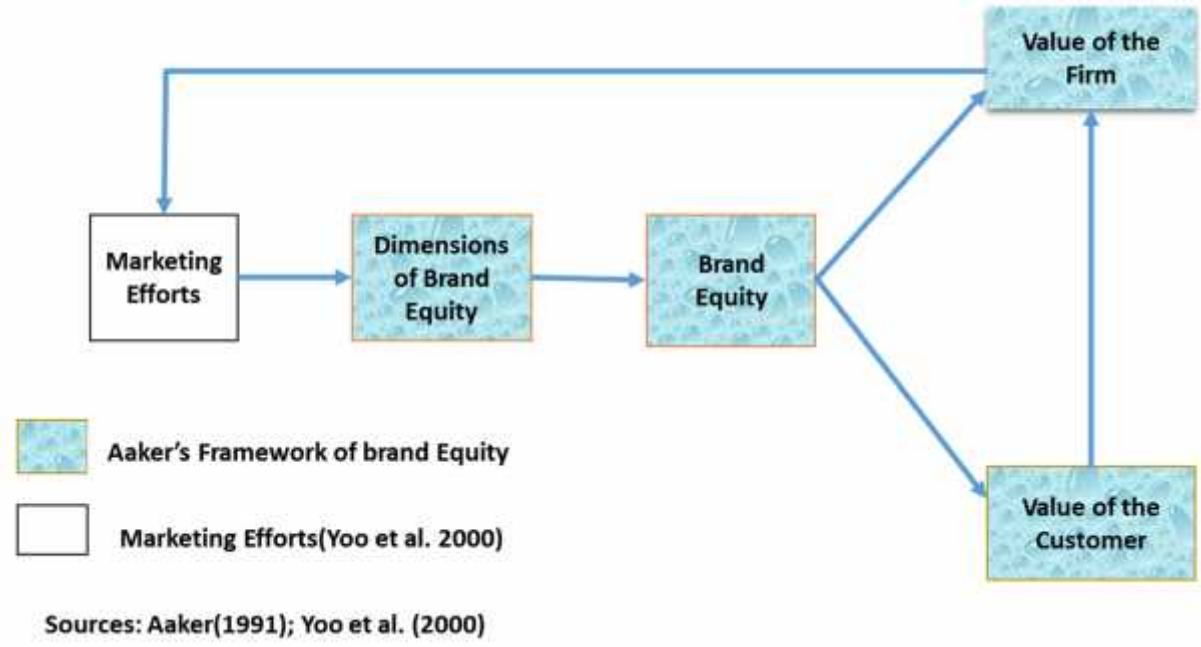
Source: *Keller's (2013)*

In reviewing the second model, according to Yoo et al. (2000), in their investigation the potential impact and the relationship between brand equity and the determinants of brand equity and also including the influence of marketing mix elements, extensive marketing effort should be exerted to find strong brand equity. For example, Yoo et al. (2000) in their investigation on the relationship between selected marketing mix elements and brand equity on a perceptual level for shoes, camera film and television set brand. Their findings suggest that advertising spending and distribution intensity relate strongly to brand equity. For this study no need of incorporating marketing mix elements so as to examine the dimensions of brand equity from the perspective of the customers.'

The major difference between Aaker's (1991) and Yoo et al. (2000) is the conceptualization of brand loyalty. Aaker (1991) defined brand loyalty as the attachment that a customer has to a brand, whereas Yoo et al. (2000) defined loyalty as the tendency to be loyal to a focal brand, which is demonstrated by the intention to buy the brand as a primary choice. The other difference is that Aaker (1991) treated brand awareness and brand association dimensions distinctively. Aaker (1991) argued that a brand association has a level of strength, and that the link to a brand (from the association) will be stronger when it is based on many experiences or exposures to communications, and when a network of other links supports it.

Furthermore, Aaker (1991) suggested that brand associations could provide value to the consumer by providing a reason for consumers to buy the brand, and by creating positive attitudes/feelings among consumers whereas Yoo et al. (2000) conceptualized CBBE model and combined the two dimensions awareness/association and treated as a single component. Their model also included store image as an indicator of perceived quality, in addition to other marketing mix elements (price, distribution intensity, advertising spending, and price deals) with direct and indirect influences on CBBE components which is inappropriate for this study.

Figure 2.4.2 Yoo et al. (2002) Customer Based Brand Equity model extended from Aaker's(1991)



The third consumer based brand equity measurement (CBBE) model is Brand Asset Valuator (BAV) (Keller, 2013); each pillar is derived from various measures that relate to different aspects of consumers' brand perceptions. Taken together, the four pillars trace the progression of a brand's development.

• **Energized Differentiation** measures the degree to which a brand is seen as different from others, and captures the brand's direction and momentum. This is a necessary condition for profitable brand building. It relates to pricing power and is often the key brand pillar in explaining valuation multiples like market value to sales.

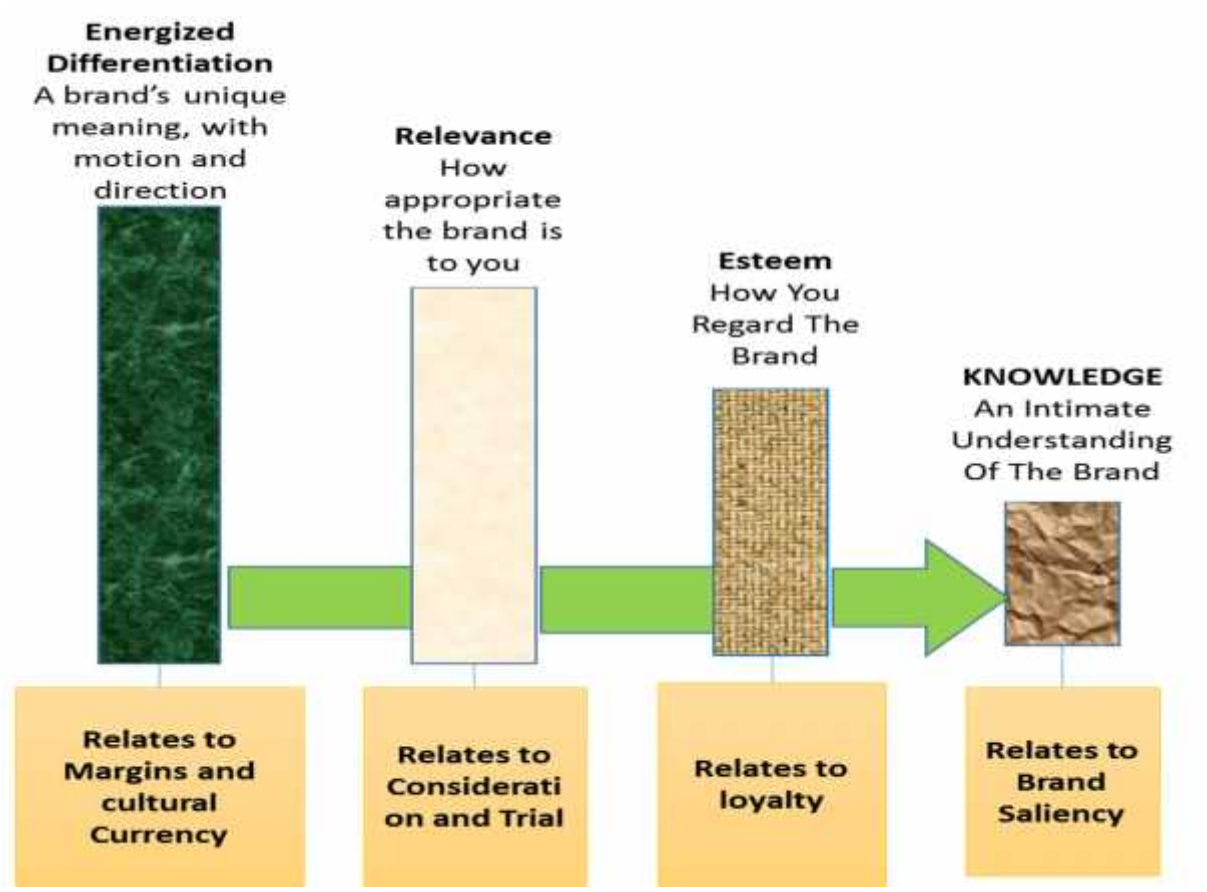
• **Relevance** measures the appropriateness of the brand to consumers and the overall size of a brand's potential franchise or penetration.

• **Esteem** measures how well the brand is regarded and respected—in short, how well it's liked. Esteem is related to loyalty.

• **Knowledge** measures how intimately familiar consumers are with a brand, related to the saliency of the brand. Interestingly, high knowledge is inversely related to a brands potential.

Keller (2013) examining the relationships between these four dimensions a brand's "pillar patterns" reveals much about a brand's current and future status (see Figure below). It is not enough to look at each brand pillar in isolation; it is the relationships between the pillars that tell a story about brand health and opportunities. According to Keller (2013), significant investigation has been done on relating BAV metrics to financial performance and stock price. Therefore the BAV model is all about to examine and analyze the current and future status or healthiness of various category of brands in their life. Moreover the model can be applied in order to assess the changes in assets and impacts on stock price as well as expectation in future return.

Figure 2.4.3 Keller's Brand Asset valuator Model



Source: *BRAND ASSET ®VALUATOR MODEL; (Keller, 2013, p.354)*

2.5 Relationship of customer equity to brand equity

According to Blattberg and Deighton cited in Keller et al. (2011) customer equity is defined as the optimal balance between what marketers spend on customer acquisition and what they spend on customer retention. In the views of Rust, Zeithaml and Lemon as cited by Keller et al. (2011) customer equity is made of three components and key drivers:

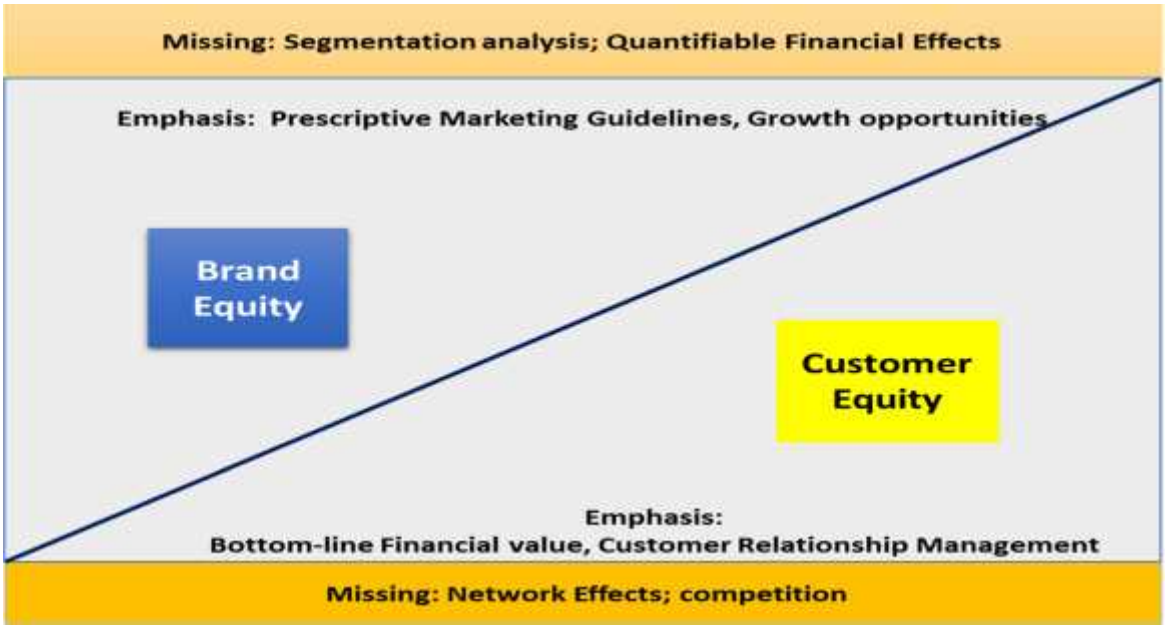
Value equity: - customers' objective assessment of the utility of a brand based on perceptions of what is given up for what is received. Three drivers of value equity are quality, price, and convenience.

Brand equity: customers' subjective and intangible assessment of the brand, above and beyond its objectively perceived value. Three key drivers of brand equity are customer brand awareness, customer brand attitudes, and customer perception of brand ethics.

Relationship equity: customers' tendency to stick with the brand above and beyond objective and subjective assessments of the brand. Four key drivers of relationship equity are loyalty programs, special recognition and treatment programs, community-building programs, and knowledge building programs.

Brand equity, on the other side, tends to put more emphasis on strategic issues in managing brands and how marketing programs can be designed to create and leverage brand awareness and image with customers. Keller et al. (2011) claimed customer equity and brand equity are related; in fact the two concepts go hand in hand. Many of the actions that will increase brand equity will increase customer equity. Brand equity tends to put more emphasis on "front end" of marketing programs and intangible value potentially created by marketing programs; customer equity tends to put more emphasis on the "back end" of marketing programs and the realized value of marketing activities in terms of revenue.

Figure 2.5.1 Brand equity versus customer equity



Source: *Keller et al. (2011)*

2.6 EMPIRICAL LITERATURE REVIEW

This part has comprised prior researches that were done within this area in the past. According to literatures several researches were done on the Customer Based Brand Equity (CBBE) of different products with application of Aaker's CBBE Model; the following are to mention a few:-

According to the study conducted by Ulla et al. (2012) under the title Consumer-based brand equity and top-of-mind awareness: a cross-country analysis, the study focused on dimensions of consumer-based brand equity, and especially the recall level of brand awareness and to identify any statistically significant differences in brand recall in various product categories and different national contexts. Appling Aaker's (1996) model the result shows that the four dimensions of Brand equity co-vary depending on the cultural context. The three product categories (beverages, computers and cell phones) revealed a relationship between culture and top-of-mind awareness on a generalizable level.

Based on the above related empirical literature by Ulla et al. (2012) this researcher formulated the following hypotheses.

H1: Customers of mobile phone perceived quality has significant positive effect on brand equity of mobile phone brands.

H2: Customers of mobile phone brand awareness has significant positive effect on brand equity of mobile phone brands.

Abad (2012) studied Customer Based Brand Equity in the Banking sector of Iran aiming to conceptualize the customer based brand equity in the financial service sector with respect to its effect on perception of brand. After employing Aaker's (1996) CBBE model, they found out that Perceived quality, brand loyalty, brand awareness and brand association are influential criteria of brand equity that enhances perception of brand in financial service sector. Among the four mentioned dimensions, brand association appears to have the most influence on brand equity.

Based on the above related empirical literature by Abad (2012) the researcher formulated the following hypotheses.

H3: **Customers of mobile phone brand association has significant positive effect on brand equity of mobile phone brands.**

Also Hossien (2012) studied Customer Based Brand Equity in the Chocolate industry of Iran with the intention of identifying which factors are influential in building brand equity and also to measure the relationship among the dimensions of CBBE in the Iranian chocolate industry. After employing Aaker's CBBE model, the researcher found out that the brand equity of chocolate products is directly made up of two dimensions, namely brand loyalty and brand image. These two dimensions have a medium direct impact on brand equity. Other dimensions have a very small and indirect impact on brand equity that in chocolate industry of Iran.

Based on the above related empirical literature by Hossien (2012) the researcher formulated the following hypotheses.

H4: Customers of mobile phone brand loyalty has significant positive effect on brand of mobile phone brands.

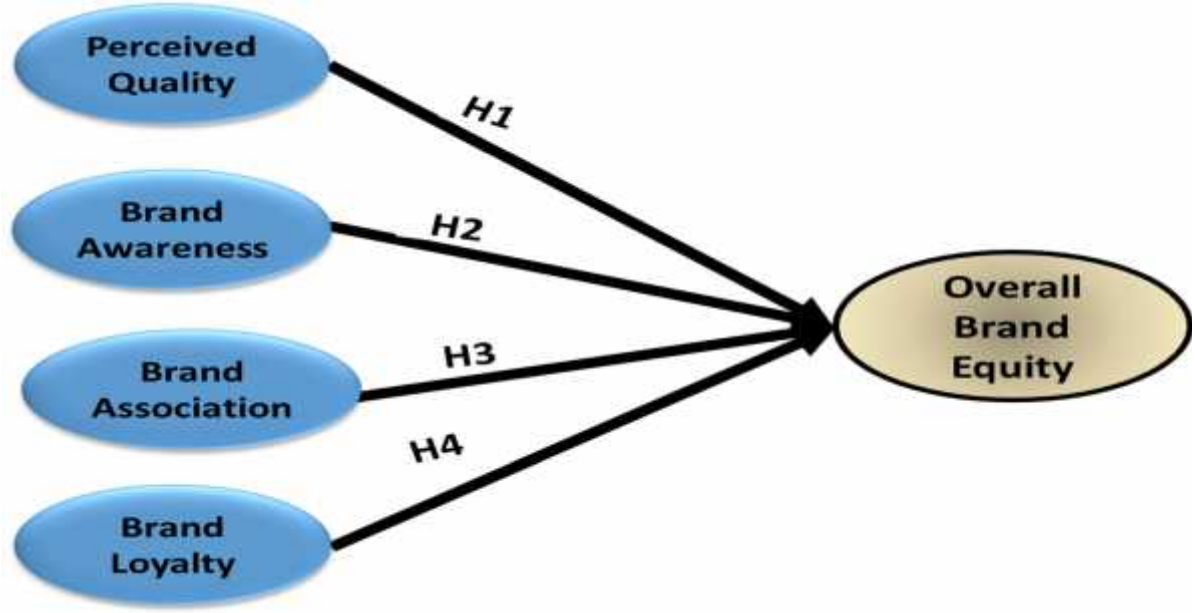
2.7 Conceptual framework and Hypothesis and of the study

The researcher used Aaker brand equity measurement model as a conceptual framework of the study to test the hypothesis. Asker's (1991) four determinants of CBBE model namely perceived quality, brand awareness, brand association and brand loyalty were used to Measure the influence on brand equity of mobile phones.

2.7.1 Conceptual Framework

According to Keller (1993), there is both an indirect and a direct approach to measuring customer-based brand equity (CBBE). The indirect approach tries to identify potential sources of such equity, whereas the direct approach focuses on customer's responses to different elements of the firm's marketing program. The implications of customer-based research suggest that measures of customers' brand perceptions are accurate reflections of brand performance in the marketplace. Strong, positive customer-based brand equity has a significant influence on the financial performance of the firm (Kim and Kim, 2004). Brand equity is a multidimensional concept and a complex phenomenon. Keller (2003) separated it into two components: awareness and association. Aaker (1991, 1996) grouped it into five categories: perceived quality, brand loyalty, brand awareness, brand association, and other proprietary brand assets such as patents, trademarks, and channel relationships. Among these five brand equity dimensions, the first four represent customers' evaluations and reactions to the brand that can be readily understood by consumers (Barwise, 1993; Yoo and Donthu, 2001), so they have been widely adapted to measure customer-based brand equity in previous studies. In general, strong brand equity means that customers have high brand-name awareness, maintain a favorable brand image, perceive that the brand is of high quality, and are loyal to the brand. Among several brand equity models in the literature, this study used the one constructed by Aaker (1996), which is the most commonly cited. It has been empirically tested in a number of previous studies (Atilgan et al., 2005; Kim and Kim, 2004; Yoo et al., 2000). This study focused on Aaker's established determinants of Customer-based brand equity model. The elements drawn by Aaker were applied to Measure the effect of determinants of brand Equity on Brand Equity (BE) of mobile phones in the Ethiopian market from the consumers' perspective and discover the most preferred dimension.

Figure 2.8.1: Conceptual Framework of the Study



Source: *Aaker's (1991)*

2.7.2 Research hypothesis

The following hypothesis was proposed for the study based on theoretical aspect.

Perceived quality and brand equity

Perceived quality is defined as "the customer's perception of the overall quality or superiority of a product or service with respect to its intended purpose, relative to alternatives" (Zeithaml, 1988). It is a competitive necessity and many companies today have turned customer driven quality into a potent strategic weapon. They create customer satisfaction and value by consistently and profitably meeting customer's needs and preferences for quality. Kotler (2000) draws attention to the intimate connection among product and service quality, customer satisfaction, and company profitability.

Based on this theoretical ground the researcher proposed the first following hypothesis as follows:

H1: Customers of mobile phone perceived quality has significant positive effect on brand equity of mobile phone brands.

Brand awareness and brand equity

Brand awareness refers to the strength of a brand‘s presence in the consumers ‘mind. According to Aaker (1996) and others, brand awareness is a key determinant of brand equity. It is defined as an individual's ability to recall and recognize a brand (Aaker, 1996; Keller, 2003). Top-of-mind and brand dominance is other levels of awareness included by Aaker (1996) in measuring

awareness. Awareness can affect customers 'perceptions, which lead to different brand choice and even loyalty (Aaker, 1996). A brand with strong brand recall (unaided awareness) and top of mind can affect customer's perceptions, which lead to different customer choice inside a product category (Aaker, 1996).

Based on this theoretical background, the researcher proposed the following hypothesis.

H2: **Customers of mobile phone brand awareness has significant positive effect on brand equity of mobile phone brands.**

Brand association and brand equity

Aaker (1996) conceptualizes brand awareness that must precede brand associations. That is where a consumer must first be aware of the brand in order to develop a set of associations (Plank, 2002). Brand association contains the meaning of the brand for consumers (Keller, 1993). It is anything linked in memory to a brand (Aaker, 1991). Brand associations are mostly grouped into a product-related attribute like brand performance and non-product related attributes like brand personality and organizational associations (Aaker, 1996; Keller, 2013). Customers evaluate a product not merely by whether the product can perform the functions for which it is designed for but the reasons to buy this brand over the competitors (Aaker, 1996). According to the above theoretical review the following hypothesis was proposed.

H3: **Customers of mobile phone brand association has significant positive effect on brand equity of mobile phone brands.**

Brand loyalty and brand equity

Aaker (1991) defines brand loyalty as the attachment that a customer has to a brand'. Two different levels of loyalty are classified: behavioral and cognitive loyalty (Keller, 1993). Behavioral loyalty can be indicated by a number of repeated purchases (Keller, 1993) or commitment to re buy the brand as a primary choice. Cognitive loyalty refers to the consumers 'intention to buy the brand as the first choice (Keller, 1993; Yoo and Donthu, 2001). Another indicator of loyalty is the customer's willingness to pay higher price for a brand in comparison with another brand offering similar benefits (Aaker, 1996). Hence, the following hypothesis of the relationship between brand loyalty and brand equity was proposed:

H4: Customers of mobile phone brand loyalty has significant positive effect on brand of mobile phone brands.

CHAPTER THREE
METHODOLOGY AND RESEARCH DESIGN

In this chapter the researcher discussed about, Description of the Study Area, Research Approach, Research design, Population and Sample, Data Sources and Type, Data Collection Procedure, and Data Analysis technique that were applied by the study. In addition Model-Fit evaluation criteria and ethical considerations would also be presented.

3.1 Description of the study area

As per literature, the Mobile phones were introduced in the mid-1980s and in the last two decades their ownership and use has increased dramatically in many parts of the world. Also, Mobile phone ownership at the end of 2005 was at near saturation levels in many areas of the world most notably in East Asia, as over 90% of all households in South Korea, Japan and urban China own at least one mobile phone information available on website (ipsosinsight, 2005). In the Western European markets rank second collectively in mobile phone prevalence, with roughly 80% of all households owning a wireless handset information available on website (ipsosinsight, 2005). And in North America, prevalence of mobile ownership is slightly less robust: in the U.S., three in four households own a mobile phone, while just over 60% of Canadian households own a mobile phone today.

Interestingly, the popularity of mobile phones is a result of the communication and flexibility that they facilitate and the personal safety issues that they overcome. In relation with this, the design of mobile phones is also evolving, with more functions being added to an increasingly “miniaturized” handset. In themselves, miniaturization and increased function might make the phone more difficult to use while driving as more concentration may be required. The Cellular telephone (commonly "mobile phone" or "cell phone" or "hand phone") is a long-range, portable electronic device used for mobile communication.

Mobile phone penetration in Ethiopia is very low when compared to the other African countries website (Research ICT Africa, 2017). However, According to Addisbiz (2017), more than 58 million mobile phone subscribers owning various brands of mobile phone. At the introduction of the service, the mobile phones were dominated by the Ericson brand since subscribers of the service were provided with this brand by the service provider. However in 2003, with the introduction of prepaid mobile service, customers were allowed to buy their own handsets on website (ethio telcom, 2005) as cited by (Amdemichael, 2014). Therefore the study area

focused on Measuring of the influence of determinants of brand equity on Customer Based brand equity of mobile Phone brands from the customers' perspective in the Ethiopia market.

The researcher has carried out pilot survey in prominent market area of the city. The shop owners' or salesmen's have put various brands in different mobile phone product category in the following rating. The ranking order in the table below was based on a combination of various market factors: their sales volume, customers demand, market share, country of origin etc.

Table 3.1.1 Pilot survey of Salesmen's/Shopping owners rating outcome of mobile phone brands

Mobile Phone Brand Name	TECHNO	SAMSUNG	HUAWEI	SMADL	IPHONE	LG	SANXING	HTC	X-TIGI	OKING	OTHERS
Rating by Shop Owners/salesmen's	**56**	**55**	**45**	**14**	**9**	**3**	**2**	**1**	**1**	**1**	**3**

Source: *survey result (2018)*

Note: - There are extended brands from the parent.

Finally, the researcher selected four brands based on the ranking scores (**TECHNO, SAMSUNG, HUAWEI, SMADL**) for the study.

3.2 Research Approach

A research approach as defined by Kothari (2004) is "the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure." Research approach is the conceptual structures with in which research is collected; it constitutes the blue print for the collection, measurement and analysis of data (Setltiz, 1966). A research approach helps to decide upon issues like what, where, how much, by what means, etc., with regard to an enquiry or a research study. Thus, research approach provides an outline of what the research is going to do in terms of farming the hypothesis its operational implications and the final data analysis.

Broadly the research approach is classified as exploratory, descriptive, and explanatory. According to Saunders et al. (2003), defined exploratory research as a research approach which

has a primary objective to insights into and understanding of the problem situation tackling the research. Exploratory research approach is carried out when there is not much knowledge about the situation (Yin, 2003).

Descriptive research studies are those studies which are concerned with describing the characteristics of a particular individual, or of a group. Most of the social research comes under this category. The major purpose of descriptive research is description of the state of affairs as it exists at present (Kothari, 2004). According to Creswell (2009), descriptive research approach is a fact-finding study that involves adequate and accurate interpretation of findings. It's used is to gather information about the existing condition.

Explanatory studies are studies with the emphasis to study a situation or problem in order to explain the cause and effect relationship between given variables. Explanatory research is mostly used within areas where extensive research has already been done (Saunders et al., 2003). Hence to addresses the five research questions or to identify and measure the extent of influence of determinates on brand equity of mobile phone brands in Ethiopian market, the study applied both descriptive and explanatory research approach. Moreover, this research followed a causal and cross sectional research approach.

3.3 Research design

According to Creswell (2009), there are three research designs which involve quantitative, qualitative and combination of the two. In fact, there are different ways to consider in approaching the research problem. Quantitative research helps to determine the relationship between an independent variable and a dependent variable in a population. On the other hand, the objective of quantitative research being applying mathematical models to natural phenomena and use measurement that provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships (Saunders, et al., 2003).

Thus, on the base of the objectives of the study and the availability of pertinent information, this study implemented quantitative research design which could help to arrive at research final finding efficiently and effectively. The quantitative research design applied to measure the relationship between the dependent variable (i.e. Brand equity) and the independent variables (i.e. perceived quality, brand awareness, brand association and brand loyalty).

3.4 Population and Sample

Firstly, the population of the study needs to be chosen. Population is defined as "the complete set of units of analysis that are under investigation, while element is the unit from which the necessary data is collected (Davis, 2000). Creswell (2009) defined a population as a group of individuals who have the same characteristic. A target population is a group of individuals or a group of organizations with some common defining characteristic that the researcher can identify and study. As stated in the scope of the study, the research tried to measure the influence of dimensions of CBBE on customers of mobile phones brands in Ethiopia market. Therefore, the study was limited to Addis Ababa.

One of the main reason for choosing Addis Ababa as a population of the study was related from the nature of the residences. As the peoples of Addis Ababa come from different regions of the country, they can represent different culture, religion, political, commercial and economic backgrounds. As a result, the finding of the study could possibly be generalized at country level.

The target population of this study was defined as young and adult shoppers between the ages of 18 and 50. This group of consumers' could be willing to spend more time and money to buy branded phones, thus representing one of the most important market segments for mobile phones in Ethiopia. The study includes customers' of Mobile Phone Brands of TECHNO, SAMSUNG, HUAWEI and SMADL found in prominent market area of the city.

Obviously, for many research questions and objectives, considering all possible cases or population elements seems unfeasible to collect or to analyze all the data available. For that reason, sample individual customers who choose among the four brands of mobile phone was approached in the city's mobile phone shops.

3.4.1 Sample size

According to Israel (2013), there are different strategies to calculate sample size. These include using census for small population, using a sample size of similar study, using published tables that is given based on the number of the population without doing any calculation to get the

sample size and using formula to calculate sample size therefore, the researcher will use a formula suggested by (Kothari, 2004).

According to Cochran (1963) as cited by Israel (2009), a large population's sample size can be calculated by using the formula

$$n_0 = \frac{Z^2pq}{e^2}$$

Where n_0 is the sample size, Z^2 is the abscissa of the normal curve that cuts off, n area **α** at the tails (**1 - α** equals the desired confidence level), **e** is the desired level of precision, **p** is the estimated proportion of an attribute that is present in the population, and **q** is **1-p**. The value for Z is found in statistical tables which contain the area under the normal curve. With a maximum variability of p=.5, confidence level of 95% and ±5% precision, the resulting sample size is $n_0 = \frac{Z^2pq}{e^2}$

$$n_0 = \frac{(1.96)^2(.5)(.5)}{(.05)^2} = 385$$

Table 3.4.1: Questionnaires Distribution and Sample Collection

Market Area		Merkato				Piazza			Kazanchis			Bole			Megenagna			Saris			Total Sample
Shops Visited		Shop-1	Shop-2	Shop-3	Shop-4	Shop-1	Shop-2	Shop-3	Shop-1	Shop-2	Shop-3	Shop-1	Shop-2	Shop-3	Shop-1	Shop-2	Shop-3	Shop-1	Shop-2	Shop-3	
Shopping Intercept Survey Sample Collection	Questionnaire Distributed	21	20	20	20	21	20	20	21	20	20	20	20	20	21	20	20	21	20	20	385
	Retained for Analysis	19	17	19	18	20	18	14	15	19	18	14	17	19	20	19	17	16	18	19	336

Source: *survey result (2018)*

3.4.2 Sampling Technique

Sampling technique is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. As a priori the researcher must decide the number of sample or sample size that he or she is

going to use for the study. The sampling process is to choose the sampling frame, which is the list of elements from which a sample may be drawn: also called the working population (Zikmund, 2000). In this study, the sampling frame will be based on individual Customers of branded mobile phone buyers in Addis Ababa market area.

The next step the researcher identified the sampling method to be used to select the sample for the study from the population. According to the methodology literatures, there are two main sampling methods, probability and non-probability sampling (Zikmund, 2000). Probability sampling is based on the concept of random selection, whereas non-probability sampling is non – random sampling (Kothari, 2004). To accomplish this study the non-probability method was chosen due to the homogeneity nature of the population. From the list of Non-probability sampling methods, convenient sampling was selected by the researcher.

3.5 Data type and source

Both primary and secondary sources of data were employed in the study. Primary data were collected by the administered questionnaires which were distributed to the respondents'; while secondary data were collected from publications including: books, researches, journals and various materials that have relevance to this study.

3.6 Data Collection Instruments

The researcher applied both primary and secondary sources of data in the study. The secondary data were collected from publications including journals, articles, and various materials that have relevance to this study and the sources were used only for literature purpose. In this study, primary data generated and presented through a structured questionnaires have been fully applicable.

The questionnaire was developed and administered in accordance with guidelines for designing an effective and efficient instrument (Brisling et al., 1973; Singh, 1995). The resulting questionnaire was originally drafted in English, and then translated into Amharic, and then translated back into English by two native speakers to that it corresponds with the English version (Brisling et al., 1973). In another attempt to increase functional and conceptual equivalence, the questionnaires were pretested by the university business students who can speak both languages fluently incorporating the marketing concept.

The survey questionnaire consists of items for measuring the dimensions of brand equity, and brand equity, as well as demographic questions. Brand equity items was developed from existing scales to measure the five constructs on a five-point Likert scale (**1** strongly disagree to **5** strongly agree).

3.7 Data Collection Procedure

Four mobile phone brand categories were chosen as the product stimuli to investigate for the current study, as this were one of the most popular which are widely distributed throughout the city. TECHNO, SAMSUNG, HUAWEI and SMADL scored the highest rating by shop owners, in that the four brands are classified as local and international brands. Therefore it was assumed that respondents could easily identify them. Both English and Amharic version of the questionnaire was distributed for respondents with the technique of shopping intercept survey as convenient as possible. The questionnaires were administered on the spot while the customers' were visiting phone shops, negotiating to buy and after buying in the prominent selected mobile phone market areas of the city. At the time of approaching the voluntary respondents were first asked whether they are familiar or not among those brand categories (TECHNO, SAMSUNG, HUAWEI and SMADL) then presented the questionnaire accordingly to fill.

3.8 Data Analysis

Before the analysis of the primary data that were collected through close ended questionnaires, analysis of the variables' reliability and validity of the constructs were verified. To conduct the analysis exhaustively, the data were analyzed with the combination of both descriptive and inferential statistics. According to Bhattacherjee (2012), Numeric data collected in a research project can be analyzed quantitatively using statistical tools in two different ways these are descriptive analysis and inferential analysis.

Descriptive analysis was conducted to summarize the characteristics of the respondents which is descriptive statistics of four dimensions of brand equity and overall brand equity by using descriptive statistics like; frequency, percentage, mean. Furthermore, Descriptive analysis refers to statistically describing, aggregating, and presenting the constructs of interest or associations between these constructs. Inferential statistics are the statistical procedures that

are used to reach conclusions about associations between variables. They differ from descriptive statistics in that they are explicitly designed to test hypotheses (Bhattacherjee, 2012).

Structural equation modeling was developed to estimates the unknown coefficients in a set of linear structural equations. SEM is a general term that has been used to describe a large number of statistical models used to evaluate the validity of substantive theories with empirical data. It takes a confirmatory (hypothesis testing) approach to the multivariate analysis of a structural theory, one that stipulates causal relations among multiple variables (Lei & Wu, 2007). Variables in the equation system are usually directly observed variables plus unmeasured latent variables that are not observed but relate to the observed variables. SEM assumes there is a causal structure among a set of latent variables (unobserved variables), and that the observed variables are indicators of the latent variables (Malhotra & Briks, 2007).

3.9 Model Evaluation criteria

In structural equation modeling (SEM), the match between any particular model and the data is assessed by using several goodness-of fit indexes because there is no single statistical significance test that identifies a correct model given the sample data. Therefore, it is necessary to take multiple criteria into consideration and to evaluate model fit on the basis of various measures simultaneously (Schermelleh-Engel et al., 2003).

However, it will not be wise reporting all the fit indices output of Amos as it is tiresome for both the researcher and the reviewer (Hooper et al., 2008).Therefore, model fit indices selected for the current study among the three classes of goodness-of-fit measures, i.e. absolute fit measures, incremental fit measures, and parsimonious fit measures, are discussed below. These indices were selected as they have been found to be the most insensitive to sample size, model misspecification and parameter estimates (Hooper et al., 2008).

Absolute Fit Indices

Evaluate the overall discrepancy between observed and implied covariance matrices; fit improves as more parameters are added to the model and degrees of freedom decrease: the following absolute fit indices were used in the current study

Chi-square statistic: It is the only statistically based measure of goodness-of-fit available in SEM (Jöreskog & Sörbom, 1993). In applying the chi-square test, the researcher customarily wishes to reject the null hypothesis so as to claim support for its alternative, i.e., there is a significant difference between the "observed" and the "expected." When applied in this way, the larger the chi-square values, the "better." However, when used in SEM, the researcher is looking for insignificant differences between the actual and predicted matrices. As such, the researcher does not wish to reject the null hypothesis and, accordingly, the smaller the chi-square value, the better fit of the model. However, the chi-square statistic is very sensitive to departures from multivariate normality of the observed variables and increases as a direct function of sample size (Ho, 2006).

Normed Chi-square statistic (χ2/df): to minimize the impact of sample size on the model chi-square, Normed Chi-square, i.e. chi-square divided by degree of freedom is used to assess the model fit. Although there is no consensus regarding an acceptable ratio for this statistic, recommendations range from as high as 5.0 (Wheaton et al., 1977) to as low as 2.0 (Tabachnick and Fidell, 2007).

Goodness-of-Fit Index (GFI): The GFI measures how much better the model fits compared with no model at all (Jöreskog & Sörbom, 1989). It is a non-statistical measure ranging from 0 (poor fit) to 1 (perfect fit). Although higher values indicate a better fit, no threshold levels for acceptability have been established. Traditionally an omnibus cut-off point of 0.90 has been recommended for the GFI however, simulation studies have shown that when factor loadings and sample sizes are low a higher cut-off of 0.95 is more appropriate (Miles and Shevlin, 1998).

Adjusted goodness of fit index (AFGI)

AGFI adjusts the GFI based upon degrees of freedom, with more saturated models reducing fit (Tabachnick and Fidell, 2007). Thus, more parsimonious models are preferred while penalized for complicated models. In addition to this, AGFI tends to increase with sample size. Values for the AGFI also range between 0 and 1 and it is generally accepted that values of 0.90 or greater indicate well-fitting models.

Root Mean Square Error of Approximation (RMSEA)

The RMSEA takes into account the error of approximation in the population. It is a measure of discrepancy per degree of freedom, and asks the question, "How well would the model, with

unknown but optimally chosen values, fit the population covariance matrix if it were available" (Ho, 2006). RMSEA Values ranging from 0.05 to 0.08 are deemed acceptable; values ranging from 0.08 to 0.10 indicate mediocre fit, and those greater than 0.10 indicate poor fit (Browne & Cudeck, 1993) as sited by (Ho, 2006).

Root mean square residual (RMR) and standardized root mean square residual (SRMR)

The RMR and the SRMR are the square root of the difference between the residuals of the sample covariance matrix and the hypothesized covariance model. The range of the RMR is calculated based upon the scales of each indicator, therefore, if a questionnaire contains items with varying levels (some items may range from 1 – 5 while others range from 1 – 7) the RMR becomes difficult to interpret (Kline, 2005). The standardized RMR (SRMR) resolves this problem and is therefore much more meaningful to interpret. Values for the SRMR range from zero to 1.0 with well-fitting models obtaining values less than .05 (Diamantopoulos and Siguaw, 2000) as sited by (Schermelleh-Engel, Moosbrugger et al., 2003), however values as high as 0.08 are deemed acceptable (Hu and Bentler, 1999). SRMR of 0 indicates perfect fit but it must be noted that SRMR will be lower when there is a high number of parameters in the model and in models based on large sample sizes (Ho, 2006).

Incremental Fit Indices

Assess absolute or parsimonious fit relative to a baseline model, usually the null model (a model that specifies no relations among measured variables): the following incremental fit indices were used in the current study.

Normed-fit index (NFI): This statistic assesses the model by comparing the $\chi 2$ value of the model to the $\chi 2$ of the null model. The null/independence model is the worst case scenario as it specifies that all measured variables are uncorrelated. Values for this statistic range between 0 and 1 with Bentler and Bonnet (1980), recommending values greater than 0.90 indicating a good fit. More recent suggestions state that the cut-off criteria should be NFI $\geq$ .95 (Hu and Bentler, 1999) it is sensitive to sample sizes. This problem was rectified by the Non-Normed Fit Index (NNFI), also known as the Tucker-Lewis index),

Tucker Lewis Index NNFI (TLI): an index that prefers simpler models. However in situations were small samples are used, the value of the NNFI can indicate poor fit despite other

statistics pointing towards good fit (Bentler, 1990; Kline, 2005; Tabachnick and Fidell, 2007). A final problem with the NNFI is that due to its non-normed nature, values can go above 1.0 and can thus be difficult to interpret (Byrne, 1998). Recommendations as low as 0.80 as a cutoff have been preferred however Bentler and Hu (1999) have suggested NNFI ≥ 0.95 as the threshold.

CFI (Comparative fit index): The Comparative Fit Index (CFI), Bentler (1990) is a revised form of the NFI which takes into account sample size (Byrne, 1998) that performs well even when sample size is small (Tabachnick and Fidell, 2007). Like the NFI, this statistic assumes that all latent variables are uncorrelated (null/independence model) and compares the sample covariance matrix with this null model. Values for this statistic range between 0.0 and 1.0 with values closer to 1.0 indicating good fit. A cut-off criterion of CFI ≥ 0.90 was initially advanced however, a value of CFI ≥ 0.95 is presently recognized as indicative of good fit (Hu and Bentler, 1999).

Parsimonious Fit indices

Evaluate the overall discrepancy between observed and implied covariance matrices while taking into account a model's complexity; fit improves as more parameters are added to the model, as long as those parameters are making a useful contribution:

The Parsimonious Normed Fit Index (PNFI)

The PNFI adjusts for degrees of freedom however it is based on the NFI. While no threshold levels have been recommended for these indices, Mulaik et al., (1989) noted that it is possible to obtain parsimony fit indices within the 0.50 region while other goodness of fit indices achieve values over 0.90 (Mulaik et al.,1989).

3.10 Ethical Consideration

The participants in this study were approached with full consent and informed to respond for questionnaires with confidence and understanding the purpose of the thesis; and the researcher firmly assured that he would keep the information confidential and the data would be used only for intended purpose. The participants also informed that, they could have freedom to withdraw from participation at any time without any unfavorable consequences, and they would not be harmed as a result of their participation or non-participation in the project, as a result the participation was completely volunteer.

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

Out of 385 questionnaires distributed to 6(six) prominent mobile phone market location of the city proportionally; 364 was collected, however due to incomplete and missing data 336 questionnaires was qualified, the response rate was 87.273% from total projected, and retained for further analysis.

4.1 Demographic Profile of Respondents

The first part of the questionnaire consists of the demographic characteristics of respondents. This part of the questionnaire requested a limited amount of information related to personal and demographic status of the respondents. Accordingly, the following variables about the respondents were summarized and described in the subsequent table and graphs. These variables includes; gender, age the educational background of the respondents.

From Table 4.1.1 from the total respondents, female participants covered the highest percentage (58.3%) while their male counterparts were 41.7%. This implies that the majority of female respondent participated on response besides female customers are more frequently visit mobile shops to buy branded mobile phone products in Addis Ababa.

As per table 4.1.1, 40.8% of the respondents were from the age range of 26-35 constituting the largest percentage. 35.4% of participants were in the age range of 36-50 from the total number. The age category of 18-25 accounted for 23.8%. This shows that the majority of branded mobile phone customers are in the active young and adult age which is in range of 26-50.

With regards to the educational background of the respondents, the table described that Bachelor's degree and Diploma holders accounted for 27.7% to each category. While 22.9% of the respondents were 12^{th} completed, 16.1% respondents have not completed 12^{th} grade. The remaining 5.4% have acquired their Master's Degree, leaving the lowest score to PhD's who were only 0.3% of the total participants. This implies that majority of participants in this study who prefer either of the listed four brands are diploma and degree holders from this category.

Table 4.1.1 Summarize the profile of the respondents below.

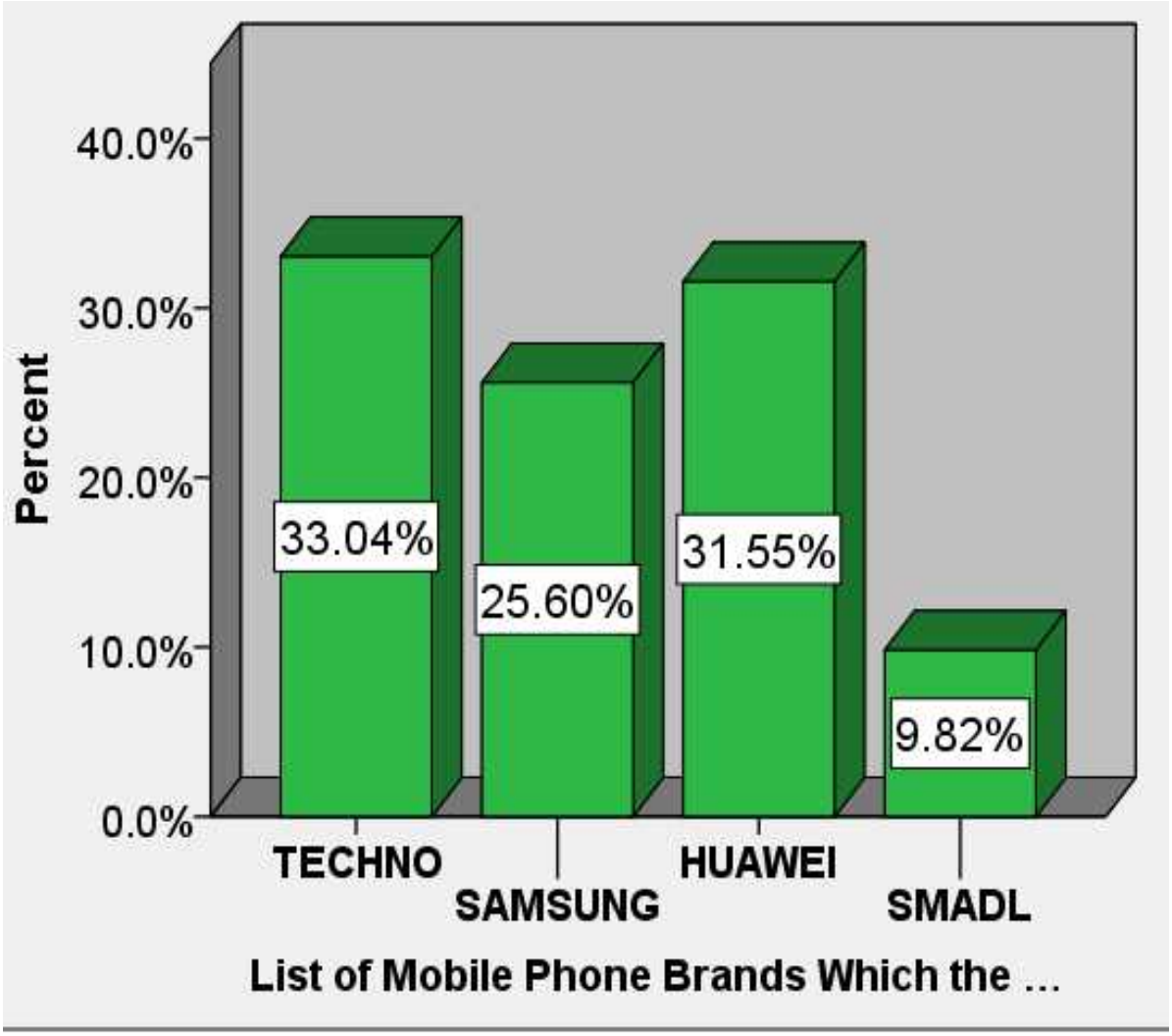
Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	140	**41.7**	41.7	41.7
	FEMALE	196	**58.3**	58.3	100.0
	Total	336	**100.0**	100.0	
Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	80	**23.8**	23.8	23.8
	26-35	137	**40.8**	40.8	64.6
	36-50	119	**35.4**	35.4	100.0
	Total	336	**100.0**	100.0	
Educational Background of the Respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<12th GRADE	54	**16.1**	16.1	16.1
	12 COMPLETE	77	**22.9**	22.9	39.0
	DIPLOMA	93	**27.7**	27.7	66.7
	BACHELOR'S DEGREE	93	**27.7**	27.7	94.3
	MASTERS' DEGREE	18	**5.4**	5.4	99.7
	PhD	1	**0.3**	0.3	100.0
	Total	336	**100.0**	100.0	

Source: *survey result (2018)*

4.2 Mobile phone Brand Popularity of the respondents

Below illustrates which mobile phone brands the respondents would like to buy with respect to their Gender, Age and Educational Background.

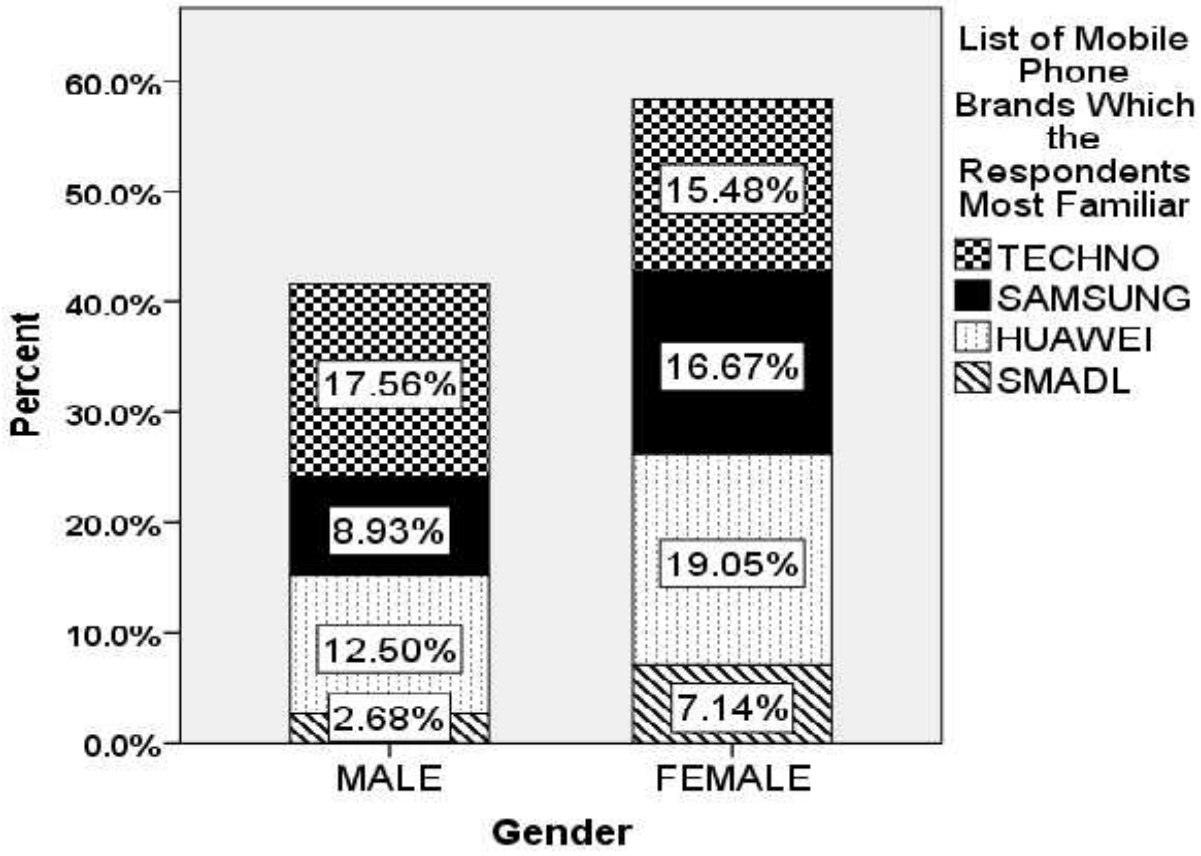
Graph 4.2.1: Current brand familiarity of all respondents



Source: *survey result (2018)*

Based on the descriptive statistics and the graph 4.2.1, from the total respondents, when the respondents were asked to select the most preferred Mobile phone brand from the above four brands they would like to buy, they revealed that 33.04% preferred TECHNO, 31.55% preferred HUAWEI. SAMSUNG and SMADLE covered the remaining portion 25.6% and 9.82% out of the total, in the respective order as they made up of the top four popular mobile phone brands in Addis Ababa. This clearly implies that TECHNO is the most preferred mobile phone brand, HUAWEI and SAMSUNG are second and third in the ranking order out of the total respondents.

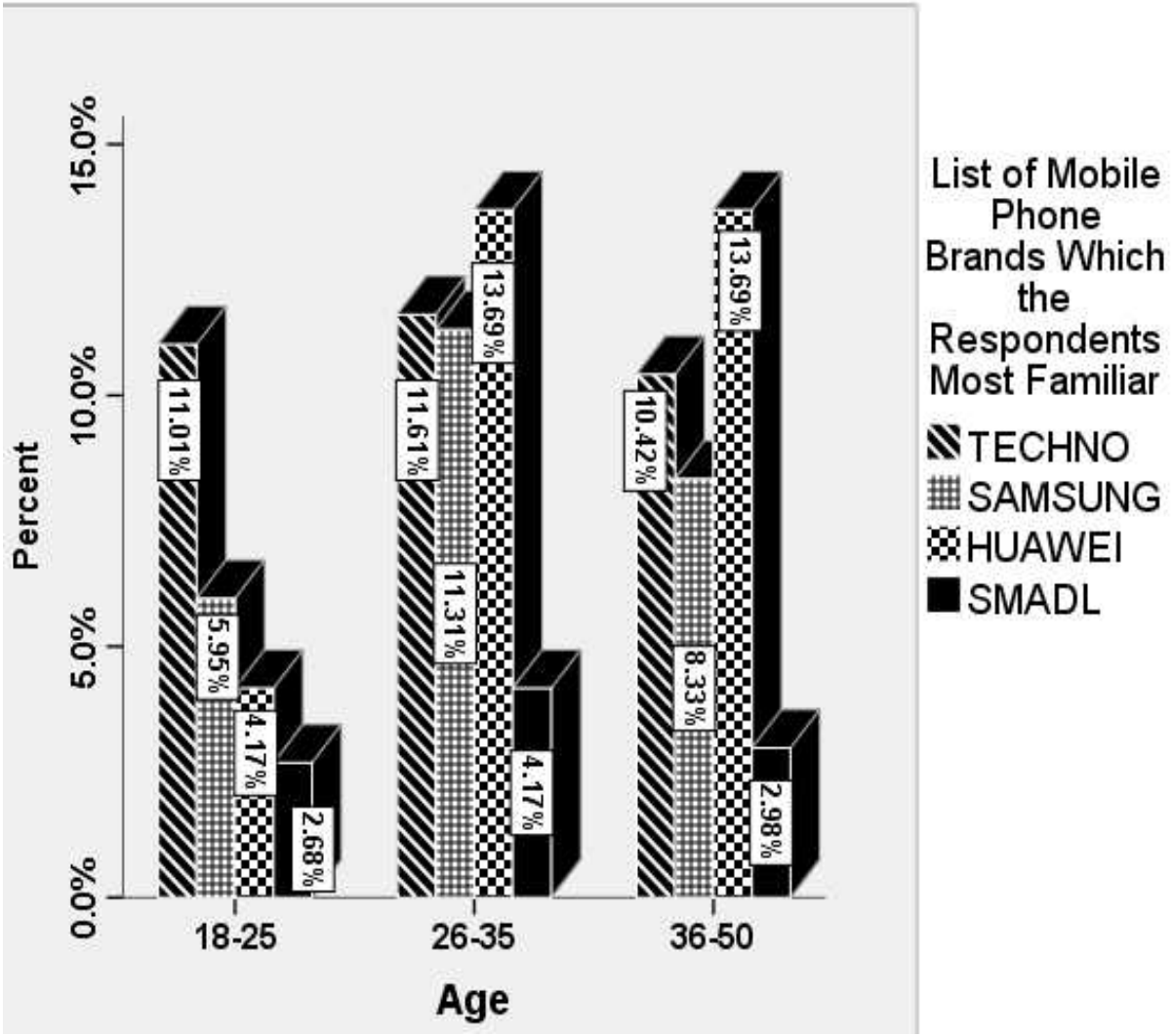
Graph 4.2.2: Current brand choice based on Gender



Source: *survey result (2018)*

When comparing brand familiarity based on gender: TECHNO was the most popular brand in male category which accounted for 17.56% in the male category and HUAWEI is the most popular brand in female which accounted for 19.05% in the female category. On the other side HUAWEI is the second most popular mobile phone brand in male category which accounted for 12.5% of the total male category. However SAMSUNG is the second most popular brand in the female category that accounted for 16.67%. The third most preferred brand in male category was SAMSUNG which accounted for 8.93% from the total male category. In a similar way TECHNO was place in the third place in female category with score of 15.48%. Lastly SMADL was the least preferred brand in this study which accounted for 2.68% and 7.14% in male and female category. This shows that majority of male and female mobile phone customers' preferred to buy TECHNO, HUAWEI and SAMSUNG respectively. Moreover these mobile phone brands are largely dominated by females' category.

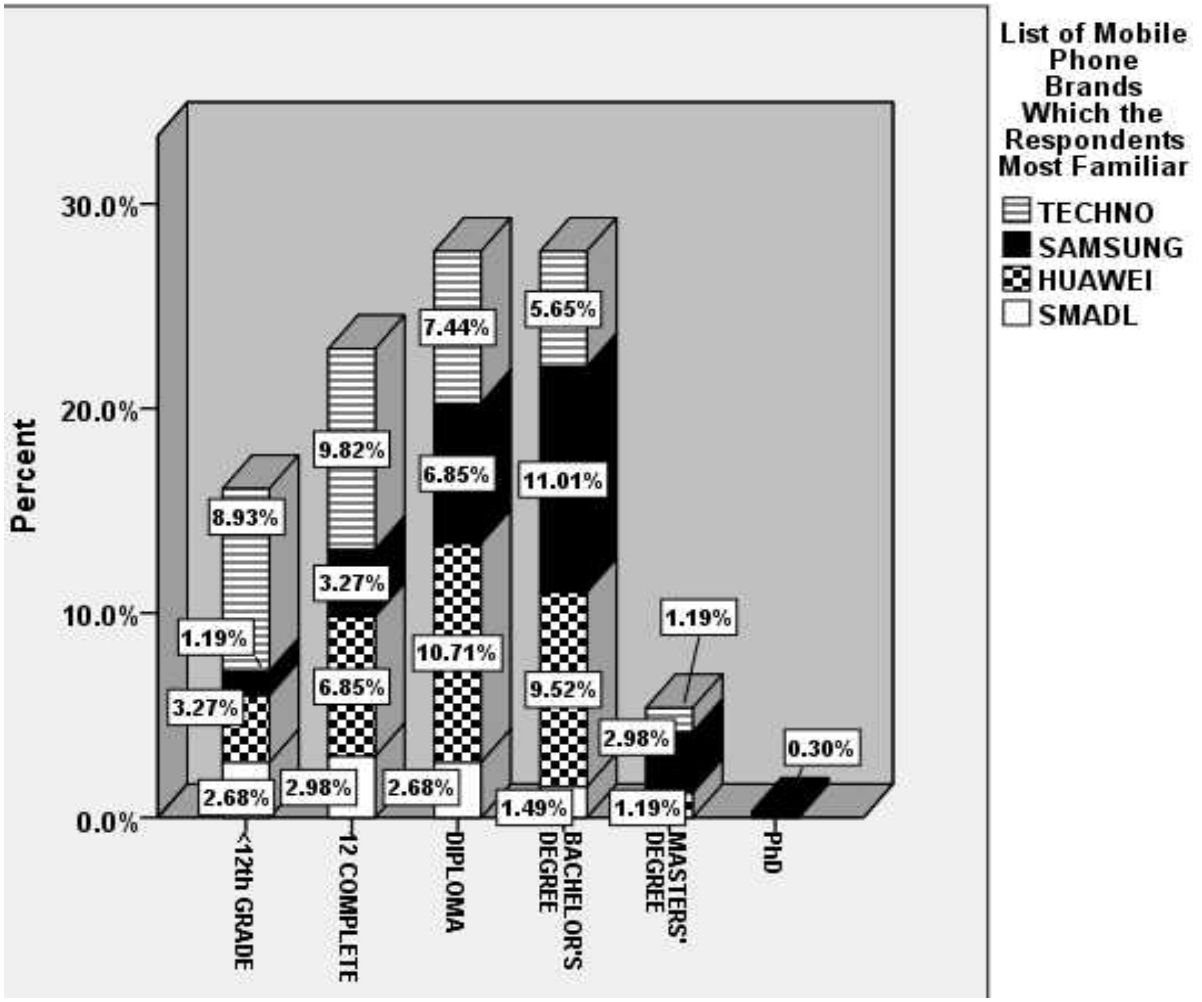
Graph 4.2.3: Current brand choice based on Age



Source: *survey result (2018)*

When comparing the popularity of the brands with respect to age, HUAWEI was found to be the most popular in the two age categories 26-35 and 36-50 which accounted for 13.69%. Whereas TECHNO has nearly similar score in all age categories which accounted for 11.01%, 11.61 and 10.42 in respective order; which shows that TECHNO is relatively preferred by all age category of the respondents. SAMSUNG placed in the third position in this study which accounted for 5.95%, 11.31 and 8.33% in respective age order. Lastly SMADL have the least popularity by all category of age which accounted for 2.68%, 4.17% and 2.98% respectively. This revealed that majority of brand affected customers are in the range of 26-50; in fact these category of respondents are very productive and expend money to buy for their preferred brands.

Graph 4.2.4: Current brand choice of respondents based on Educational background



Source: *survey result (2018)*

The Graph 4.2.4 depicts that TECHNO was most preferred mobile phone brand reported by the respondents in the range of <12th grade to master's degree which constituent 8.93%, 9.82%, 7.44%, 5.65% and 1.19% in the respective order. The second was HUAWEI which accounted for 3.27%, 6.85%, 10.71%, 9.52% and 1.19% from top to bottom. The third mobile phone brand which was preferred by all category of educational background is SAMSUNG which constituent 1.19%, 3.27%, 6.85%, 11.01% 2.98% and 0.3% from top to bottom respectively. The last is SMADL with score of 2.68%, 2.98%, 2.68% and 1.49, in this case those respondents who have Master's degree and PhD have reported zero percent. With the exception of respondents who have PhD degree, it can be inferred that TECHNO and HUAWEI having highest popularity are first and second with nearly equal score within each educational background category. The finding is similar with the above variables such as gender and age that TECHNO and HUAWEI have the highest popularity in Ethiopia.

4.3 Determinants of Brand Equity

In order to analyze the respondents overall Customer Based Brand Equity, a total of 18 questions were grouped into the five dimensions of Customer Based Brand Equity which are: perceived quality, brand awareness, brand association, brand loyalty and Overall Brand Equity.

In order to compare the respondents' response rate brand equity dimensional items frequency descriptive statistics of mean and standard deviation were used. The mean indicates to what extent the sample group averagely agrees or disagrees with the different statements. The higher the mean the more the respondents agree with the statement while the lower the mean the more the respondents disagree with the statement. In addition, standard deviation shows the variability of an observed response. Below the descriptive outputs are discussed one by one.

4.3.1 Brand Equity

Brand equity is a set of asset and legal responsibility connected to the brand's name and figure that add to or take away from the value presented by the product or service to a company and/or that company's customers. Aaker (1996), grouped and identified the main assets as the following: brand awareness, brand association, brand loyalty and perceived quality and. In this section each dimensions of brand equity results from the respondents rating were compared to show customers' based brand equity for locally assembled and international mobile phone brands in the Ethiopian mobile phone market.

4.3.2 Perceived Quality

Perceived quality is the customer's judgment about a product's overall excellence or superiority that is different from objective quality (Aaker, 1996). Since it's impossible for consumers to make complete and correct judgments of the objective quality, they use quality attributes that they associate with quality. Perceived quality is hence is formed to judge the overall quality of a product. Therefore, Three (3) items related to perceived quality were asked to the respondents and the results of the descriptive statistics is displayed in table 4.3.1 below.

Table 4.3.1 Descriptive Statistics output of Perceived Quality

CODE	Variable(Item)	N	Mean	Std. Deviation
PQ1	I trust the quality of products from "X"	336	3.6964	0.86566
PQ2	Products from "X" would be of very good quality	336	3.9494	0.66499
PQ3	Products from "X" offer excellent features	336	3.8899	0.63932

Source: *survey SPSS Output (2018)*

As illustrated on Table 4.3.1 from the three items the respondents also gave the highest mean score to "Products from "X" would be of very good quality "and "Products from "X" offer excellent features" with a mean score of 3.9494 and 3.8899 respectively. While they gave a low mean score of 3.6964 to the item "I trust the quality of products from "X"" The results indicate that the respondents have scored above average of perceive quality towards their mobile phone brand preference. Therefore, all of the Items of Perceived Quality scored above average. The results indicate that the respondents have above average level of perceive quality towards their mobile phone brand choice.

4.3.3 Brand Awareness

According to Keller (2004), 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. Accordingly, the respondents were asked Three (3) questions related to brand awareness. Therefore, Three (3) items related to Brand Awareness were asked to the respondents and the results of the descriptive statistics is displayed in table 4.3.2 below.

Table 4.3.2: Descriptive Statistics output of Brand Awareness

CODE	Variable(Item)	N	Mean	Std. Deviation
BAW1	Some characteristics of "X" come to my mind quickly	336	3.8988	0.72598
BAW2	I can recognize "X" quickly among other competing brands	336	4.0952	0.61560
BAW3	I am familiar with "X" brand	336	4.0149	0.67564

Source: *survey SPSS Output (2018)*

As per table 4.3.2, the list of items comprising of brand awareness, the mean score for the item "I can recognize "X" quickly among other competing brands", brand scored the highest with

a mean score of 4.0952. While the item “Some characteristics of “X” come to my mind quickly “scored the lowest with a mean score of 3.8988. The overall mean score for the Brand Awareness dimension is high, which indicates that the respondents have a good brand awareness of the mobile phone brands they preferred to buy. As the result indicate customers can easily recognize their preferred brand and highly familiar on the brand they choose.

4.3.4 Brand Association

Brand associations consist of all brand related thoughts, feelings, perceptions, images, experiences, beliefs, attitudes (Kotler and Keller, 2006) and is anything linked in memory to a brand. Hence, four (4) items related to brand association were presented to the respondents. Table 4.3.3 shows the analysis about brand association.

Table 4.3.3. Table Descriptive Statistics output of Brand Association

CODE	Variable(Item)	N	Mean	Std. Deviation
BAS1	“X” has very unique brand image, compared to competing brands	336	3.8304	0.62612
BAS2	I respect and admire people who owns “X”	336	3.6220	0.66691
BAS3	I like the brand image of “X”	336	4.0714	0.64249
BAS4	I like and trust the company, which makes “X” products	336	3.8155	0.70087

Source: *survey SPSS Output (2018)*

Table 4.3.3 shows that the respondents scored the highest for the item "I like the brand image of “X"" with a mean score of 4.0714 while the lowest went to the item which states” I respect and admire people who owns “X”” with the mean score of 3.6220. This implies that although the respondents have a good level of association with their chosen brand, their association doesn't go to the level of personal attachment with other people who owns similar mobile phone brands.

4.3.5 Brand Loyalty

Loyalty is a core dimension of brand equity. Aaker’s (1991) defines brand loyalty as the attachment that a customer has to a brand. Based on this definition five (5) item related to brand loyalty were asked to the respondents. Table 4.3.4 depicts the outcome to these questions with mean score and standard deviation.

Table 4.3.4 Descriptive Statistics of Brand Loyalty

CODE	Variables(Items)	N	Mean	Std. Deviation
BL1	I consider myself to be loyal to "X"	336	3.5000	0.92074
BL2	When Buying Mobile Phone, "X" would be my first choice	336	3.8690	0.74160
BL3	I will keep on Buying "X" as long as it provides me satisfied product	336	3.9940	0.74511
BL4	I am still willing to buy "X" even if its price is a little higher than that of its competitors	336	3.9643	0.72394
BL5	I would love to recommend "X" to my friends	336	3.9375	0.68608

Source: *survey SPSS Output (2018)*

From the Table 4.3.4 items "I will keep on Buying "X" as long as it provides me satisfied product" scored the highest among the list of items related to brand loyalty with a mean score of 3.9940 while the respondents gave the least score of 3.50 to the item "I consider myself to be loyal to "X"". This clearly indicates that overall the respondents have scored high level of brand loyalty on a particular brand they like to buy.

4.3.6 Overall Brand Equity

In order to test the respondents overall brand equity, three items were provided for the respondents to answer. Table 4.3.5 shows the Descriptive statistical output regarding the overall brand equity of the respondents.

Table 4.3.5 Descriptive Statistics output of Overall Brand Equity

CODE	Variables(Items)	N	Mean	Std. Deviation
OBE1	Even if another brand has the same features as "X", I would prefer to buy "X"	336	4.2470	0.70499
OBE2	If another brand is not different from "X" in any way, it seems smarter to purchase	336	4.2143	0.78526
OBE3	"X" is more than a product to me	336	4.5714	0.56854

Source: *survey SPSS Output (2018)*

As can be seen from Table 4.3.5, the respondents gave nearly similar mean score to all the three items with the score of 4.5714, 4.2470 and 4.2143 from highest to lowest. The item ""X" is more than a product to me" implying that the respondent have high personal emotional

attachment with their preferred brand. The respondents also gave a relatively similar mean score to the remaining two items which indicates that the overall brand equity mean score is relatively high; therefore the customers have better overall brand knowledge toward the focal brand of their own choice.

4.4 Data Screening for Analysis

Structural equation modeling was employed for confirmatory factor analysis and path analyses. The recommended two-step approach by Anderson and Gerbing (1988) was followed in the analysis. In the first stage, the measurement model was analyzed to ensure sufficient reliability and validity of the constructs. In the second stage, the hypothesized relationships between constructs were tested using structural equation modeling.

The criteria's set for the application of structural equation modeling in a certain study were more or less satisfied except the random selection of the population sample. Random selection was not applied due to its impracticality to address the current research problem as the student researcher found it difficult to select mobile phone customers in a randomly manner.

4.4.1 Normality

One of the criteria to employ structural equation modeling and for the utilization of Maximum likelihood parameter estimation procedure is that the assumption of normality should not be severely violated. A data set with Skewness of greater than 3 and Kurtosis greater than 7 are indicators of the severe violation of data normality (Curran, West & Finch, 1996). As the Mean Standard Deviation, Skewness and Kurtosis of the Scale Items table (See Appendix-B) depicts the largest values of skewness and Kurtosis was 0.920 and 1.088 which are associated with Overall brand equity and Brand awareness indicator items OBE3 and BAW1. Therefore, the values of the current data fell within the suggested guideline and considered as normal for further analysis.

4.4.2 Multi-Collinearity

The other criteria to apply structural equation modeling to a data set are to make sure that there is no multi-collinearity between variables. Multi-collinearity occurs when variables are highly correlated with each other. A correlation coefficient matrix with correlations of .90 or higher (Kline, 2005) and .70 or higher (Meyers et al., 2006) among study variables can be a sign of multi-collinearity. Pearson correlation test was used to detect multi-collinearity. This test

clearly identifies high correlations of more than .70 coefficient values. As the Pearson correlation indicated there is no multi-collinearity issue as all the correlation coefficients are below 0.7.

4.4.3 Reliability Test

First, Cronbach's alpha coefficients were calculated to examine the internal consistency of the items for the five constructs. Accordingly, all the eighteen items representing the five constructs were fulfilled the recommended cutoff point of alpha, i.e. 0.7 and all were retained for confirmatory factor analysis.

Table 4.4.1 Reliability (Cronbach's alpha coefficient) of the construct and all standard items

Reliability Statistics		
Independent and dependent Variables	**Cronbach's Alpha**	**N of Items**
PERCIEVED QUALITY	0.817	3
BRAND AWARENESS	0.788	3
BRAND ASSOCATION	0.785	4
BRAND LOYALTY	0.856	5
OVERALL BRAND EQUITY	0.809	3
Reliability Statistics		
	Cronbach's Alpha	N of Items
All standardized items	0.804	18

Source: *Survey SPSS output (2018)*

4.5 Confirmatory factor Analysis

A confirmatory factor analysis (CFA) with SPSS Amos 21.0 Graphics software (SEM package) for the measurement model with five constructs was performed. Maximum likelihood parameter estimation method was employed with promax rotation. Kaiser Meyer Olkin (KMO) and Bartlett's Test of Sphericity were used to determine if the scale is appropriate for factor analysis.

Table 4.5.1 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.798**
Bartlett's Test of Sphericity	**Approx. Chi-Square**	**1358.843**
	df	**153**
	Sig.	**.000**

Source: *SPSS output (2018)*

The KMO measures the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis. The value of KMO for the current data set was 0.798, which is higher than suggested level of 0.50 (Gursoy and Gavcar, 2003).

Bartlett's test is another indication of the strength of the relationship among variables. It tests the null hypothesis that the correlation matrix is an identity matrix. An identity matrix is matrix in which all of the diagonal elements are 1 and all off diagonal elements are 0. The null hypothesis should be rejected to decide there is indeed a correlation among variables and suitable for factor analysis (Garson, 2012). From table 4.5.1, it can be seen that the Bartlett's test of sphericity is 153 and it is significant, that is, its associated probability is less than 0.05. It is actually 0.000. Therefore, the significance value for this analysis resulted in rejection of the null hypothesis and concludes that there are correlations in the data set that are appropriate for factor analysis.

4.5.1 Factor Loading

Although, five dimensions composed of perceived quality, brand awareness, brand association, brand loyalty and overall brand equity were extracted initially, one Brand Awareness item (BAW2) and one Brand Association (BAS3) were dropped due to a convergent validity issue, i.e. although they were load in a single factor, their loading was below the recommended cut off point of 0.5.

The confirmatory factor analysis resulted in sixteen items and five dimensions that were adequately loaded on their factors with a composition of three perceived quality items, two brand awareness items, three brand Association items, five brand loyalty items and three overall brand equity items. There was no cross loading and the correlation between the factors were below the square root of the average extracted variance, implying the absence of discriminant validity.

Table 4.5.2 summarizes the Factor loading, Construct Reliability with the corresponding Average variance Extracted (AVE) coefficient of the sixteen items under five constructs.

	Factor Loading(FL)[2]	Construct Reliability(CR)[3]	Average Variance Extracted (AVE)[4]
Perceived Quality			
PQ1	**0.786**		
PQ2	**0.708**	**0.959**	**0.565**
PQ3	**0.759**		
Brand Awareness			
BAW1	**0.883**	**0.966**	**0.654**
BAW3	**0.727**		
Rand Association			
BAS1	**0.521**		
BAS2	**0.746**	**0.980**	**0.513**
BAS4	**0.845**		
Brand Loyalty			
BL1	**0.876**		
BL2	**0.662**		
BL3	**0.758**	**0.978**	**0.534**
BL4	**0.676**		
BL5	**0.658**		
Overall Brand Equity			
OBE1	**0.774**	**0.981**	**0.549**
OBE2	**0.620**		
OBE3	**0.815**		

Source: *SPSS output with elaboration (2018)*

4.5.2 Convergent Validity

According to Fornell and Larcker (1981), there are three procedures to assess for convergent validity. These are item level reliability of each measure, composite reliability of each construct, and the average variance extracted. As shown in Table 4.5.2 the convergent validity for the proposed constructs of this study is adequate.

Item level convergent validity: According to Hair et al., (2006), an item is significant if its factor loading is greater than 0.50. As shown in Table 4.5.2, the factor loadings of all the items in the measure range from 0.521 to 0.883, thus meeting the threshold set by Hair et al., and demonstrating convergent validity at the item level.

Construct Validity At the construct level: Hair et al., (2006) recommended that the composite reliability should be used in conjunction with structural equation modeling to address the tendency of the Cronbach's alpha to understate reliability. For composite reliability to be adequate, a value of 0.70 and higher was recommended (Nunnally &Bernstein, 1994). Accordingly, the composite reliability (CR) for Perceived quality, Brand awareness, Brand association, Brand loyalty and Overall brand equity were found to be 0.959, 0.967, 0.980, 0.978 and 0.981, respectively, ensuring validity at the construct level.

Average variance Extracted: the final indicator of convergent validity is the average variance extracted, which measures the amount of variance captured by the construct in relation to the amount of variance attributable to measurement error (Fornell & Larcker, 1981). Convergent validity is judged to be adequate when average variance extracted equals or exceeds 0.50 (i.e. when the variance captured by the construct exceeds the variance due to measurement error). Here, the retained constructs meet the criteria scoring an AVE range between 0.513 and 0.654

4.5.3 Discriminant validity

Discriminant Validity measures the extent to which constructs differ. Fornell, Tellis and Zinkhan (1982), states that discriminant validity is considered adequate when the variance shared between a construct and any other construct in the model is less than the variance that construct shares with its measures. The variance shared by any two constructs is obtained by squaring the correlation between the two constructs. The variance shared between a construct and its measures corresponds to average variance extracted. Discriminant validity was assessed by comparing the square root of the average variance extracted for a given construct with the correlations between that construct and all other constructs. Table 4.5.3 shows the correlation matrix for the constructs. The diagonal elements have been replaced by the square roots of the average variance extracted for discriminant validity to be judged adequate, these diagonal elements should be greater than the off-diagonal elements in the corresponding rows and columns. Discriminant validity appears satisfactory for all constructs. This indicates that each construct shared more variance with its items than it does with other constructs. Having

achieved discriminant validity at both the item and construct levels, the constructs in the proposed research model are deemed to be adequate.

Table 4.5.3: Factor Correlation Matrix

	PQ	BAW	BAS	BL	OBE
PQ	**0.799**				
BAW	0.089	**0.925**			
BAS	0.177	0.288	**0.725**		
BL	0.057	0.129	0.255	**0.755**	
OBE	0.0228	0.095	0.271	0.284	**0.776**

Source: *SPSS and Survey Analysis result (2018)*

NOTE: - The bold figure along the diagonal represents the square root of average variance extracted

4.6 Goodness of fit of the measurement model

Absolute fit indices determine how well a priori model fits the sample data (McDonald and Ho, 2002) demonstrate which proposed model has the most superior fit. These measures provide the most fundamental indication of how well the proposed theory fits the data. Included in this category are the Chi-Squared test, RMSEA, GFI, the RMR and the TLI. Hu and Bentle (1999), suggest that GFI, NFI, CFI, and TLI values above 0.90 are generally interpreted as representing a good fit, whereas a value of RMSEA below 0.10 indicates a good fit and value of RMR below 0.09. Due to large samples, a significant Chi-square (X2) does not indicate poor fit because the Chi-square is easily influenced by the size of the sample (unlike other criteria). In addition to the disadvantage of the Chi-square statistic, the ratio of Chi-square to its degree of freedom, X2/df, is further used to indicate a good fit. It is suggested that a ratio of 3:1 or less indicates an adequate fit.

In terms of model fit, the test of the measurement model for this study demonstrated that it had a good fit to the data. The data shown in Table 4.6.1, depicted that, except for Chi-square (X2), all other criteria met the recommended values suggested by Hu and Bentle (1999). A Chi-square (X2) value of 196.34 with a degree of freedom of 94 for the measurement model was found. The p value of X2 was equal to 0.00, which does not meet the criteria for a fit model (P≥ 0.05). However, it was accepted that X2 is not an appropriate criterion for a study that has a large sample size (Browne and Cudeck, 1993; Marsh, 1994), and that X2 becomes more sensitive as the number of indicators rises (Hair et al., 1998).

This study had a large sample size (336 valid respondents), so X2 was not an appropriate testing criterion for model fit for this study. Therefore, it could be articulated that the measurement model of this study had an acceptable level of fitness. Other fitness indices met the recommended minimum values as well: Chi-square (X2)/df of 2.089, NFI of 0.847 almost acceptable, TLI of 0.888, CFI of 0.912, RMR of 0.028, and RMSEA of 0.057 (see Table 4.6.1).

Table 4.6.1: Reported Values of Model Fit for the Measurement Model

Fit Measures	Cut-off Criteria	Values from	Result
The Model	Fit Measures		
Chi-square (X2)	P ≥ 0.05	0.000	Not fit
Chi-square (X2)/df	≤ 5.00	2.089	Good Fit
Goodness of Fit (GFI)	≥ 0.90	0.930	Good Fit
Adjusted Goodness of Fit Index(AGFI)	> 90 acceptable >0.95 good	0.899	Acceptable Fit
Norm Fit Index (NFI)	≥ 0.90	0.847	Acceptable Fit
Tucker-Lewis Index(TLI)	0.90 ≤ value < 0.95;	0.888	Good Fit
Comparative Fit Index (CFI)	≥ 0.90	0.912	Good Fit
Root Mean Square Residual(RMR)	≤ 0.09	0.028	Good Fit
Parsimonious Normed Fit Index(PNFI)	> 0.05 is acceptable	0.663	Good Fit

Source: *CFA Analysis result (2018)*

4.7 Structural Equation Modelling

Once the measurement model is evaluated for its fitness with the data, a structural equation modeling was developed based on the research hypotheses to assess the statistical significance of the proposed relationships between overall brand equity and its Dimensions. Accordingly, Perceived quality, Brand awareness, Brand Association, brand loyalty were all taken as the exogenous variables, while brand equity was the endogenous variable. Moreover, all of the four exogenous variables were assumed to be inter-correlated.

SPPSS AMOS 21.0 Graphics was used to run the structural model and test the hypothesized relationship between constructs. Maximum likelihood estimation and correlation matrix were used to test the structural model.

The goodness of model fit criteria used in testing the measurement model were employed to test the structural model, and goodness-of-fit statistics indicated that the structural model revealed similar satisfactory fit result.

Table 4.7.1 Structural model fitness evaluation criteria and the value of defualt model

Fit Measures	Cut-off Criteria	Values from	Result
The Model	Fit Measures		
Chi-square (X2)	P ≥ 0.05	0.000	Not fit
Chi-square (X2)/df	≤ 5.00	2.089	Good Fit
Goodness of Fit (GFI)	≥ 0.90	0.930	Good Fit
Adjusted Goodness of Fit Index(AGFI)	> 90 acceptable >0.95 good	0.899	Acceptable Fit
Norm Fit Index (NFI)	≥ 0.90	0.847	Acceptable Fit
Tucker-Lewis Index(TLI)	.90 ≤ value < .95;	0.888	Good Fit
Comparative Fit Index (CFI)	≥ 0.90	0.912	Good Fit
Root Mean Square Residual(RMR)	≤ 0.09	0.028	Good Fit
Parsimonious Normed Fit Index(PNFI)	> 0.05 is acceptable	0.663	Good Fit

Source: *SEM Analysis result (2018)*

A Chi-square (X2) 196.34 value with a degree of freedom of 94 for the structural model was found in this study. The p-value of X2 was equal to 0.00, which does not meet the criteria for a fit model (p ≥ 0.05). However, this is expected due to large sample size and a large number of indicators in the study. All other fitness indices met the recommend values: Chi-square (X2)/df of 2.089, NFI of 0.847 almost acceptable, TLI of 0.888, CFI of 0.912, RMR of 0.028, and RMSEA of 0.057 (see Table 4.7.1).Therefore, the structural model of this study showed an acceptable model fitness level. The next step was to test the relationships between constructs included in the structural model.

4.7.1 Regression weights and standardized Regression Weight Analysis

Table 4.7.2:- summarizes the unstandardized regression coefficients with the corresponding standard error (S.E.), critical ratio (C.R.) value and the p-value as well as the standardized estimates of the regression coefficients. The standard error of the coefficients represents the unstandardized regression weights and standardized Regression Weight Analysis expected variation of the estimated coefficients, and is an index of the efficiency of the predictor variables in predicting the endogenous variable; the smaller the S.E. the more efficient the predictor variable is. The result shows that the standard error for the four path estimates ranges between .054 and .118, therefore, the independent variables (perceived quality, brand awareness, brand association and brand loyalty) seems efficient in predicting the dependent variable i.e. overall brand equity.

The critical ratio is a test of the significance of the path coefficients. A critical ratio that is more extreme than ±1.96 indicates a significant path at p value of less than 0.05.The results indicate that the unstandardized regression weights , only brand association and brand loyalty are significant by the critical ratio test (> ±1.96, p < .05). Accordingly, it can be concluded that brand association and brand loyalty variables are significant predictors of overall brand equity (brand association C.R. = 2.720, p < .05; brand loyalty C.R. = 3.596, p < .01).

The standardized path coefficients have been incorporated into the final direct model. Accordingly, brand awareness, brand association and brand loyalty of mobile phone brand are directly related to the overall brand equity of mobile phone brands, though the p-value of brand awareness became insignificant. On the other hand perceived quality of mobile phone brands is inversely related with overall brand equity of mobile phone brands. Thus, the greater the association of a particular mobile phone brand in the mind of the consumers and being more loyal and awareness of the brand among consumers, is expected to lead the creation of an overall customer based brand equity of a mobile phone brand (Brand loyalty β = 0.365 and brand association, β= 0.375 brand awareness β= 0.004 respectively). Perceive quality and brand awareness variables were not significantly related to the overall brand equity variable as their C.R. values are-1.033 and 0.042 which are lower than the threshold value of ±1.96 and the probability values are 0.302 and 0.967 which are greater than p-0.05 and p-0.01.

Table 4.7.2: - Standardized and Unstandardized Regression Weight

			Unstandardized Estimate	S.E.	C.R.	P	Standardized Estimate
OABE	<---	**BRAND_AWARENESS**	.003	.077	.042	.967	.004
OABE	<---	**BRAND_ASSOCIATION**	.322	.118	2.720	.007	.375
OABE	<---	**PERCEIVED_QUALITY**	-.056	.054	-1.033	.302	-.095
OABE	<---	**BRAND_LOYALTY**	.218	.061	3.596	***	.365

Source: *SPSS Amos Graphics output (2018)*

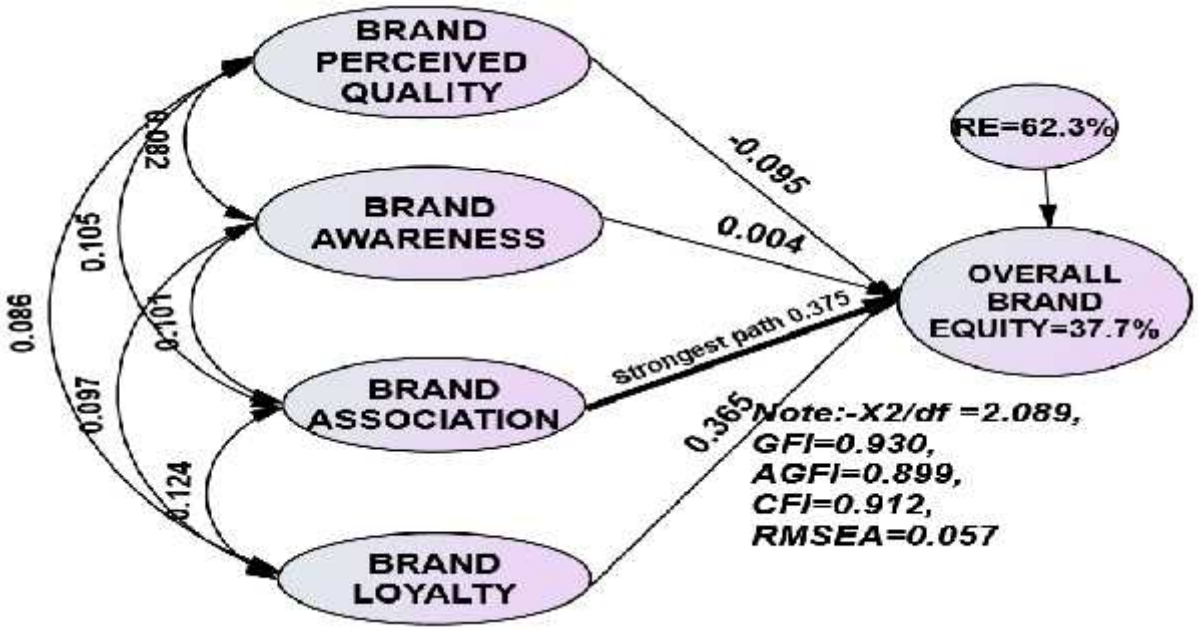
4.7.2 Squared Multiple Correlation Analysis

Squared multiple correlation is an index of the proportion of the variance of the endogenous variable (Brand Equity) that is accounted for by the exogenous or predictor variables. It can be assumed that the higher the value of the squared multiple correlation, the greater the

explanatory power of the regression model, and therefore the better the prediction of the dependent variable.

As shown in figure 4.7.2 below the unidirectional arrow without origin on top of the latent variable of Overall brand equity represent unexplained (residual) variances for these factor. The residual variances are calculated by subtracting the factors' squared multiple correlations (explained variances) from 1. Thus, for this hypothesized model, 62.3% of the variation in overall brand equity is unexplained; alternatively, 37.7% of the variance is accounted for by the joint influence of brand association and brand loyalty; and very small contribution of brand awareness dimension even though it's insignificant.

Figure 4.7.1: Relationships between four dimensions of brand equity and overall brand equity



Source: *SPSS AMOS Graphics output (2018) with elaboration*

4.8 Hypothesis Test Outcome

The empirical data and statistical tests result of the current study give support for Hypothesis three and four (H3 and H4). No support was found for Hypothesis one and Hypothesis two (H1 and H2).

Hypothesis one is not supported in that although customers' of mobile phone brands perceived quality was proposed to have a positive and significant influence on brand equity, very small value of beta coefficient indicated negatively influence brand equity but its p-value and C.R. are out of the cut-off-limit.

The finding of the study have not supported hypothesis two (H2) that claims customers' of mobile phone brands Awareness have a positive and significant influence on brand equity. In fact, One brand awareness item was fully eliminated during the confirmatory factor analysis due to convergent validity issue, Therefore, the final result provide no support for the remaining items i.e. Based on the analysis result brand awareness dimension indeed has no significant and positive influence on brand equity (ß =0.004 and p-value of 0.967 at $p < 0.05$ or $p<0.1$).

The study provided sufficient support for the third hypothesis (H3) that proposed customers' of mobile phone brands Association to have a significant and positive influence on brand equity; the result indicated with strong and significant path, brand association found to be the strongest determinant of mobile phone brand equity in Ethiopian mobile phone market (with ß =0.375 and p value of 0.007 at $P<0.01$).

Lastly, the study provided sufficient support for the fourth hypothesis (H4) that proposed customers' of mobile phone brands Loyalty to have a significant and positive influence on brand equity; the result indicated with strong and significant path, brand Loyalty found to be the strongest determinant of mobile phone brand equity in Ethiopian mobile phone market (with ß =0.365 and p value of 0.000 at $P<0.01$).

Table 4.8.1: Results of hypothesis testing

Hypothesis	Standardized Coefficient	C.R	p-value	Results
H1: Perceived Quality ⟶ OBE	-0.095	-1.033	0.302	Unsupported
H2: Brand Awareness ⟶ OBE	0.004	0.042	0.967	Unsupported
H3: Brand Association ⟶ OBE	0.375	2.720	<0.05	Supported
H4: Brand Loyalty ⟶ OBE	0.365	3.596	<0.01	Supported

Source: *Survey analysis result (2018)*

4.9 Discussion

The purpose of this study was to examine the extent of influence of brand equity dimensions and find out the most influential dimension of all which is developed based on the conceptualization of (Aaker's, 1991), in the Ethiopian mobile phone market.

The findings of the study gave support for Brand Association and Brand Loyalty dimensions to have a positive and significant influence on the overall brand equity of mobile phone brands while the influence of brand awareness and perceived quality on brand equity was found to be insignificant. The influence of brand association and Brand Loyalty were the stronger among

the brand equity dimensions in the determination of brand equity in the Ethiopian mobile phone market.

The findings of the current study that provides support for brand Association and brand loyalty to have a positive and significant influence on brand equity is consistent with previous works of (Tong and Hawlay, 2009; Abad, 2012)

According to Keller (1993) brand awareness consists of brand recognition and brand recall performance. Brand recognition relates to consumers' ability to confirm prior exposure to the brand when given the brand as a cue while brand recall relates to consumers' ability to retrieve the brand when given the product category, the needs fulfilled by the category, or some other type of probe as a cue. The relative importance of brand recall and recognition depends on the extent to which consumers make decisions in the store.

Brand recognition may be more important to the extent that product decisions are made in the store. In Medium-involvement decision settings, a relatively high level of brand awareness may be important for the product choice. Since mobile phone products fall relatively medium involvement medium cost product categories, awareness in this context focuses on creating both brand recall and brand recognition which they can play a significant role in buying decision of mobile phones.

The findings of the current study gave strongest support for brand association; in the study, brand association also recognized as one of the sources of brand equity. Consumers have good image towards the mobile phone brands, towards the company, and mobile phone owners or users. Individual brands like TECHNO, HUAWEI and SAMSUNG able to create a good familiarity and image about their brands in the minds and hearts of their customers. As per Keller et al., (2011), consumers can form brand association in a variety of ways other than marketing activities: from direct experience; through information from other commercial or nonpartisan sources such as consumer reports or other media vehicles; from word of mouth; and by assumptions or inferences consumers make about the brand itself, its name, logo, or identification with a company, country, channel of distribution, or person, place, or event.

The findings are also contradicts with previous studies in that no support was found for perceived quality dimension which is considered as the core of brand equity (Eda et al., 2005),

and (Yoo and Bongee, 2001). As Hamann et al., (2007) suggested as branding contributes greatly, to provide security and assuring customers of quality of products. Whenever customers' perception deviated on the quality of the mobile phone products, the influence on brand equity would be low.

The findings are also consistent with previous studies of Tong and Hawlay, (2009), in china's sportswear, and Hossien (2012), studied CBBE in the Chocolate industry of Iran in that strong support was found for brand loyalty dimension which is considered as the core of brand equity. As Keller (2003), stated Brand equity signifies the degree of attachment with customer and it is linked to its use experience. Consumer preference to repurchase a product has initiated repetitive to buy the same product. According to Jacoby & Chestnut (1978) as cited by Anne and Lars (2003), define brand loyalty as a result of two components:

1. A favorable attitude toward the brand, and
2. Repurchase of the brand overtime.

The existence of relationship between brand equity and brand loyalty might imply that consumers of mobile phone may consider mobile phone products as a specialty good, which require high involvement towards the favorable brands.

Although these findings are based on the evidence from the mobile phone market in Ethiopia, they might be helpful in other similar electronic products industries as well as other products whose nature is relatively closer to pure commodity.

CHAPTER FIVE
SUMMERY OF FINDINGS, CONCLUSION AND RECOMMENDATION

Based on the results of the study obtained through the questionnaire distributed to Mobile Phone consumers, the following summary, conclusions and recommendations were made. In addition, this chapter also covers limitation of the study and future research to be conducted.

5.1 Summery

The aim of the study was to measure brand equity of four categories of mobile phone brands based on the application of customer based brand equity model and a measurement scale proposed by (Tong and Hawley, 2009). In the introduction part of this study on the basis of theoretical background and previous empirical findings, determinants of CBBE were proposed and hypothesized to have a positive and significant influence on brand equity of customers of mobile phone brands. Accordingly, the relationships between multidimensional customer-based brand equity i.e. perceived quality, brand awareness, brand association, brand loyalty and overall brand equity was tested in the Ethiopian mobile phone market. The study also tried to identify which determinant have the highest influence on the Overall Brand Equity among the four. In addition, this study also tried to answer the main research questions and five specific research questions which was proposed in the introduction part of the study.

Data was collected with the method of shopping center intercept survey of a non-randomly selected participants; out of 385 questionnaires distributed to 6(six) prominent mobile phone market location of the city proportionally; 364 was collected, however due to incomplete and missing data 336 questionnaires 87.273% of the total projected retained for further analysis. Respondents with scale items adopted from previous works of Tong and Hawley (2009), and measured the five constructs and 18 items were provided at five point likert scales. The collected data was analyzed by descriptive and inferential statistics as well as Structural Equation Modeling (SEM) Technique.

The study's general information part of descriptive statistics indicated that TECHNO and HUAWEI brands were the top two most popular brands. SAMSUNG placed in the third position; while SMADL were the least preferred one almost by all demographic category profile of the respondents. The results also show that the majority of brand affected consumers are female. The finding also revealed that only two variables Brand Loyalty and Brand Association had a significant and positive influence on overall brand equity in the mind of the

consumers. The other two variables were found to be insignificant to explain the dependent variable (Overall Brand Equity).

5.2. Conclusion

Brand equity is seen as the outcome of long term marketing efforts to build a sustainable, competitive advantage relative to competitors, any marketing programs will affect customers' brand knowledge.

The following major conclusions were extracted from the finding section;

With regard to the general profile of the respondents.

- TECHNO and HUAWEI are the most favored mobile phone brands respectively.
- SAMSUNG is the third favored brand scored by all demographic category of respondent on this study.
- SMADL is the least favored mobile phone brand in all category.
- Most of brand affected consumers are youngest and adult age greater than 26 and adults below 50 years.
- The educational background of the participants revealed that Diploma and first degree holders have accounted the highest percentage whereas under 12th grade and 12th completed participants have scored the second. Lastly post graduate and above were least favored.

One of the objectives of this study was to measure the extent of influence of the dimensions of brand equity and find out the dimension with the most significant in determining the customer-based brand equity in the Ethiopian mobile phone market. The results of the analyzed questionnaires data revealed that Brand association and Brand Loyalty are the most significant variables affecting customer based brand equity.

As hypothesized in literature review, although all the four brand equity determinants were proposed to have significant and positive effect on consumer based brand equity. Only the two hypothesis have got support. Perceived Quality and brand awareness were found to be insignificant to explain brand equity. In this context consumers' of mobile phone have been influenced negatively towards quality perception perhaps due to counterfeiting, fraud and low quality mobile phone products imported by contraband illegally. In Similar analysis, brand awareness was also found to be insignificant, as the result the alternative hypothesis was rejected.

Nevertheless, the correlation table (Appendix-C) revealed that perceived quality and brand awareness have small to moderate and positive relationship with brand association and brand loyalty, which they would possibly affect brand equity indirectly.

5.3 Recommendation

Based on the findings of the study and conclusions made, the following recommendations are given.

- ✓ Local mobile phone assembling companies as well as foreign companies should focus on the decision criteria of their customers as a guide to develop mobile phone products to utilize the untapped market segment. These include, convenience, new technology applications (browser, social media applications…), product attributes (durability, size, memory capacity, design, battery life…), and aftersales services as these elements have contribution to enhance perceived quality.
- ✓ Endorsing Mobile phone brands with well- known star footballers or celebrities who are known to have model life style may also improve the brand awareness and perceived quality of a mobile phone brand, particularly to enhance the participation of male audiences.
- ✓ Presenting mobile phone products on social media sites improves brand awareness because when customers like a particular mobile phone and tell people about it, they are doing free advertisement for that particular mobile phone.
- ✓ Evidence show brand awareness and perceived quality dimensions impact differently on brand equity may help marketers to allocate resources more effectively.
- ✓ In this competitive environment, the main focus should be on brand image and brand loyalty. A powerful brand image that is distinctive and favorable will initially attract consumers to the brand and provide a platform for developing their loyalty.
- ✓ Local mobile phone assemblers advised to sponsor public mass events such as events like greater run so as to display the name of their product to potential customers.
- ✓ The student researcher recommend a marketing strategy that incorporates celebrity endorsements, event sponsorships and cross-media advertising.
- ✓ The researcher likewise urge brand managers to consider the order and relationships that exist between the components and, specifically, not to underrate the indirect influence of perceived quality and brand awareness on overall equity.
- ✓ Confining this study to Ethiopia's mobile phone market is acknowledged as a limitation, although it is argued that findings may be relevant to other similar electronic-related sectors.

- ✓ Extending the research to include other regions of the country is recommended, if there are unique characteristics in the region or significant regional gaps in consumer attitudes and behaviors.
- ✓ Nowadays, Ethiopian mobile phone market face a challenge of market environment, in the form of most demanding consumer and very tough competition, for imported and locally assembled. Moreover many types of mobile phone brands imported through contraband trade; therefore importers, wholesalers, traders should revise their strategy to maximize their brand image in the mind of the customers to create unique competitive advantage.

5.4 Limitations and Directions for Future Research

This study has two major limitations. First, it is limited to the mobile phone market in Ethiopia and focuses on only in the capital city of the country Addis Ababa. Thus, future research needs to be done if the results are to be expanded into other regional Ethiopian markets, if there are unique characteristics in the region or significant regional gaps in consumer attitudes and behaviors.

It should also be noted that no performance measurements have been conducted in this study due to the inability to gather the required financial data as this is very difficult to measure the value in our country's context. Including performance measurement and financial performance of the studied mobile phone brands, e.g. sales and profit, would further strengthen this research.

This study has covered only four local and internationally popular mobile phone brands; not including more brands can be taken as limitation. Therefore, in the future it would be better for any forthcoming researchers who wants to investigate similar issue to include more number of mobile phone brands local and foreign manufactured mobile phones.

References

Aaker, D.A., 1991, Managing Brand Equity, Free Press, New York, NY.

Aaker, D.A., 1996. Measuring Brand Equity Across Products and Markets. California Management Review, 38(3), pp.102-20.

Amdemichael A., (2014), ''Assesment Of Brand Preference Of International Vs Local Mobile Phone Brands'', Unpublished Master Thesis , Addis Ababa University , Addis Ababa , Ethiopia.

American Marketing Association, Brand Definition, Retrieved on November 06, 2017 from http://www.marketingpower.com/_layout/Dictionary.aspx

Anderson, J.C. and Gerbing, D.W. (1988), "Structural equation modeling in practice: a review and recommended two-step approach", Psychological Bulletin,

Vol. 103 No. 3, pp. 411-23.
Anne Martensen, Lars Grønholdt, (2003) "Understanding and Modelling Brand Equity", Asian Journal on Quality, Vol. 4 Issue: 2, pp.73-100.
Avichai Shuv-Ami, (2016) "A new market brand equity model (MBE)", EuroMed Journal of Business,Vol. 11 Issue: 3, pp.322-346.
Atilgan, E., Aksoy, S. & Akinci, S., 2005, 'Determinants of The Brand Equity: A Verification Approach In The Beverage Industry In Turkey', Marketing Intelligence & Planning, 23 (2/3), 237-248.
Arjun Chaudhuri, (1995) "Brand equity or double jeopardy?" Journal of Product & Brand Management, Vol. 4 Issue: 1, pp.26-32.
Baldauf, A., Cravens, K.S. and Binder, G. (2003), "Performance consequences of brand equity management evidence from organizations in the value chain", Journal of Product and Brand Management, Vol. 12 No. 4, pp. 220-236.
Barwise, P., 1993, 'Brand Equity: Snark Or Boojum? International', Journal Of Research In Marketing, 10 (1), 93-104.
Bhattacherjee, A., 2012. Social science research: principles, methods, and practices, 2nd ed., Global Text Project, United States of America.
Bridges, S., keller, K. L., & Sood, S. (2000). Communication strategies for brand extensions: enhancing perceived fit by establishing explanatory links. Journal of Advertising, 29(4), 1-11.
Brisling, R.W., Lonner, W.J. and Robert, M. (1973), Crosscultural Research Methods, John Wiley & Sons, New York, NY.
Cobb-Walgren, C.J. and Ruble, C.A. (1995), "Brand equity, brand preference, and purchase intent", Journal of Advertising, Vol. 24 No. 3, pp. 25-41.
Comer and T. A. Wikle (2008), Worldwide diffusion of the cellular telephone, (1995-2005). the Professional Geographer, 60(2), 252-269.
Creswell, J. W., 2009, Research Design; Qualitative, Quantitative, and Mixed Methods Approaches, 3rd.ed, California: Sage.
Curran, P. J., West, S. G., & Finch, J. F. (1996). The Robustness of Test Statistics to Nonnormality
and Specification Error in Confirmatory Factor Analysis. Psychological Methods VoL 1, No. l , pp 16-29.
Davis, D., 2000, Business Research for Decision Making, Canada Brooks/Cole: Thomson.
De Chernatony, L., and M. McDonald 2001 Creating Powerful Brands in Consumer, Service and Industrial Markets. Oxford: Butterworth-Heinemann.
Duman, T., Journal of Destination Marketing & Management (2017), http://dx.doi.org/10.1016/j.jdmm.2017.08.001
Emmanuel Selase Asamoah, (2014) "Customer based brand equity (CBBE) and the competitive performance of SMEs in Ghana", Journal of Small Business and Enterprise Development, Vol. 21 Issue: 1, pp.117-131
Emari, H., & jafari, A. (2012). The mediatory impact of brand loyalty and brand image on brand equity. african journal of bussiness management, 6(17), 5692-5701.
ETC (2005). A Background Paper on Telecom & Telecom Statistics in Ethiopia, http://www.telecom.net.et
Farhadi, M., 2009, Improving Profitability Model In Insurance Industry, Considering Inflation: The Case Study Of Automobile Insurance In Iran. Unpublished Master thesis, Lulea University Of Technology. Iran
Farquhar, P., Han J., and Ijiri Y. (1991) Recognizing and Measuring Brand Assets. Marketing Science Institute Working Papers Series. Cambridge: Report No. 91-

119.
Feldwick, P. (1996), "Do we really need brand equity?", The Journal of Brand Management, Vol. 4 No. 1, pp. 9-28.
Garson, G. D. (2012). Testing Statistical Assumptions. Asheboro: Statistical Associates Publishing.
Hamann, D., William, R.L. Jr and Omar, M. (2007), "Branding strategy and consumer high-technology product", Journal of Product & Brand Management, Vol. 16 No. 2, pp. 98-111.
Hair, J.F. Jr, Anderson, R.E., Tatham, R.L. and Black, W.C. (1998), Multivariate Data Analysis, 5th ed., Prentice-Hall, Upper Saddle River, NJ.
Hirschman, E.C. and Holbrook, M.B. (1982), "Hedonic consumption: emerging concepts, methods and propositions", Journal of Marketing, Vol. 46 No. 3, pp. 92-101
Hisham Hamid Hawass, (2013) "Brand trust: implications from consumer doubts in the Egyptian mobile phone market", Journal of Islamic Marketing, Vol. 4 Issue: 1, pp.80-100.
Ho, R. (2006). Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS. New York: Taylor & Francis Group, LLC.
Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural Equation Modelling: Guidelines for Determining Model Fit. Electronic Journal of Business Research Methods Volume 6 Issue1 , pp 53-60.
Hossien Ahmed (2012). Conceptualization of customer based brand equity in the Banking sector of Iran. Journal of Consumer Marketing
Hu, L. and Bentler, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives", Structural Equation Modeling, Vol. 6 No. 1, pp. 1-55.
Israel, D.G., 2013, Determining Sample Size , University Of Florida, P.1-5
Jeon, J.E. and Lee, J. (2016), "Brand schematicity moderates the effect of aesthetic Brands on brand accessories purchase intentions", Social Behavior and Personality, Vol. 44 No. 10, pp. 1733-1746.
Joo-Eon Jeon, (2017) "The impact of brand concept on brand equity", Asia Pacific Journal of Innovation and Entrepreneurship, Vol. 11 Issue: 2, pp.233-245.
Keller, K L.(1993) ‗Conceptualizing, Measuring and Managing Customer Based Brand Equity', Journal of Marketing, vol. 57, no.1, pp. 1-22.
Keller, L.K., 2003, Strategic Brand Management Building, Measuring And Managing Brand Equity, New Jersey: Prentice Hall.
Keller, L.K., 2004, Strategic Brand Management: Building, Measuring And Managing Brand Equity, 2nd Ed, Prentice-Hall Of India, New Delhi.
Keller, L.K. (2008), Strategic Brand Management: Building, Measuring, and Managing Brand Equity, 3rd ed., Prentice Hall, Englewood Cliffs, NJ.
Keller, L.K., Parameswaran, M.G. & Jacob, I. (2011) Strategic brand management. 3rd ed. Dorling Kindersely: India
Kevin.L.Keller., 2013, Strategic Brand Management, Building, Measuring and Managing Brand Equity. Global Edition, 4th Ed, England, Edinburgh Gate.
Kim, W.G. & Kim, H., 2004, 'Measuring customer-based restaurant brand equity: Investigating the relationship between brand equity and firms' performance, Cornell Hotel & Restaurant Administration Quarterly. 45(2). p.115-131.
Kotler, P. (2000), Marketing Management: Analysis, Planning, Implementation and Control, 10th ed., Prentice-Hall, Englewood Cliffs, NJ.
Kotler, P. and Keller, K.L. (2006) Marketing Management, 12th edition, NJ: Upper

Saddle River, Prentice Hall.
Kotler, P. and Keller, K. (2011), Marketing Management, 14th edn., Prentice Hall, NJ.
Kothari, C., 2004, Research Methodology: Methods And Techniques, New Age International New Delhi.
Klopper, H.B ., 2011, Brand Management: Pearson Education, South Africa
Lisa Wood, (2000), "Brands and brand equity: definition and management", Management Decision, Vol. 38 Issue: 9, pp.662-669,
Lei, P.-W., & Wu, Q. (2007). Introduction to Structural Equation Modeling: Issues and Practical Considerations. The Pennsylvania State University , 33-43.
Mesay Sata, (2013), Factors Affecting Consumer Buying Behavior of Mobile Phone Devices, Mediterranean Journal of Social Sciences, Vol. 4, Number:12, pp. 103-112.
Mohammed Abad. (2012), the practicality and application of Aaker's Customer based brand equity model in the Nigerian Banking Sector. Journal of Consumer Marketing
Malhotra, N. K., & Briks, D. F. (2007). Marketing Research: An applied approach, Third Edition. Edinburgh Gate: Pearson Education Limited.
Myers, C.A., 2003, 'Managing Brand Equity: A Look At The Impact Of Attributes', Journal of Product And Brand Management, 12 (1), 3952.
Netemeyer, R. G., Krishnan, B. P., Wang, G., Yagci, M., Dean, D., Ricks, J., et al. (2004). Developing and validating measures of facets of consumer based brand equity. Journal of Business Research, 57, 209-224.
Pekka Tuominen, (1999), Managing brand equity, LTA 1/99 p 65-100.
Park, C.W., Jaworski, B.J. and Maclnnis, D.J. (1986), “Strategic brand concept-image management”,Journal of Marketing, Vol. 50 No. 4, pp. 135-145.
Park, C.W., Eisingerich, A.B., Pol, G. and Park, J.W. (2013), “The role of brand logos in firm performance”, Journal of Business Research, Vol. 66 No. 2, pp. 180-187.
Plank, J. H., 2002, 'Measuring Brand Equity: An Evaluation of a Consumer based Brand Equity Scale'. Journal of Marketing Theory and Practice, 10(2), 46-62.
Pouromid, B., & Iranzadeh, S. (2012). “The evaluation of the factors affects on the bra “The evaluation of the factors affects on the brand equity of Pars Khazar household appliances based on the vision of female consumer. Middle-East journal of scientifc research, 12(8), 1050-1055.
Raja Ambedkar Ande, Angappa Gunasekaran, Punniyamoorthy Murugesan, Thamaraiselvan Natarajan, (2017) "Brand resonance score for CBBE model: an application in financial services",Benchmarking: An International Journal, Vol. 24 Issue: 6, pp.1490-1507.
Raphael Odoom, (2016) "Brand marketing programs and consumer loyalty evidence from mobile phone users in an emerging market", Journal of Product & Brand Management, Vol. 25 Issue: 7, pp.651-662.
Room, A. 1992 History of Branding. In Branding: A Key Marketing Tool, J. Murphy, ed., pp. 13–21. Houndmills: Macmillan.
Saunders, M., Lewis, P. & Thornhill, A. (2003). Research methods for business students,3rd edition. Harlow: Pearson Education ltd.
Sellitiz, C., 1966, Research Methods In Social Science: Criteria For The Life History, Yale University Press, New York
Singh, J. (1995), “Measurement issues in cross-national research”, Journal of International Business Studies, Vol. 26 No. 3, pp. 573-96.
Simon, C.J. and Sullivan, M.W. (1993), “The measurement and determinants of brand equity: a financial approach”, Marketing Science, Vol. 12 No. 1, pp. 28-53.

Tong, x., & hawley, j. m. (2014). Measuring customer-based brand equity: Empirical Evidence from the sportswear market in China. Journal of Product and Brand Management, 262271.

Ulla Hakala Johan Svensson Zsuzsanna Vincze, (2012), Consumer-based brand equity and top-of-mind awareness: a cross-country analysis, Journal of Consumer Research.

Vazquez, R., Del Rio, A.B. and Iglesias, V. (2002), "Consumer-based brand equity: development and validation of a measurement instrument", Journal of marketing Management, Vol. 18 Nos. 1/2, pp. 27-49.

Washbourm, J. H., & plank, R. E. (2012). Washburn, J. H., & Plank, R. E. (2002). Measuring brand equity: An evaluation of a consumer-based brand equity scale.

Wu, Shwu-Ing, (2001), *A study of brand preference and loyalty on the Taiwan to Singapore air route*, Journal of International Marketing and Marketing Research, 26(1), 3.

Xiao Tong, Jana M. Hawley, (2009) "Measuring customer-based brand equity: empirical evidence from the sportswear market in China", Journal of Product & Brand Management, Vol. 18 Issue: 4, pp.262-27.

Xiao Tong, Jana M. Hawley, (2009) "Creating brand equity in the Chinese clothing market: The effect of selected marketing activities on brand equity dimensions", Journal of Fashion Marketing and Management: An International Journal, Vol.13 Issue: 4, pp.566-581.

Yin, R.K. (2003). Case Study Research: Design and Methods. Third Edition. Thousand Oaks, CA: Age Publication.

Yoo, B., Donthu, N. & Lee, S., 2000. An Examinaton of Selected Marketing Mix Elements and Brand Equity. Journal of the Academy of Marketing Science, 28(2),pp.195-211.

Yoo, B. and Donthu, N. (2001), "Developing and validating a multidimensional consumer-based brand equity scale", Journal of Business Research, Vol. 52 No. 1, pp. 1-14.

Zeithaml VA (1988) ‗Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence 'Journal of Marketing, vol. 52, July, pp. 2-22.

Zikmund, 2000, Business Research Methods, 6th Ed., Dryden (Harcourt) Fort Worth, Orland

Zhuowei (Joy) Huang, Liping A. Cai(2015), Modeling consumer-based brand equity for multinational hotelbrands e When hosts become guests. Jouranal of tourism management, 46, pp.431-443.

Ipsosinsight (2005). Ipsosinsight. Available at http://www.ipsosinsight.com/pressrelease.aspx. [Accessed on 14 November 2017]

Addisbiz (2017). Addisbiz. Available at: http://www.Addisbiz.com. [Accessed on 12 November 2017]

Addisbiz (2016). Addisbiz. Available at: http://www.Addisbiz.com. [Accessed on 08 November 2017]

Research ICT Africa (2017). Research ICT Africa. http:// www.researchictafrica.net. [Accessed on 12 November 2017]

Ethio telecom(2017). Ethio telecom. http://www.telecom.net.et , [Accessed on 07 November 2017]

Dawit, Endeshaw 2017, 'Local assemblers, importers to register their mobile devices', The Reporter, 23 September 2017. Available at: http://www.goalgoole.com/thereporter/ethiopia/2017/ [23 september 2017].

http://www.google.com

Appendixes

APPENDIX-A1 QUESTIONNAIRE IN ENGLISH

Addis Ababa University School of Commerce Department of Marketing Management

Dear Respondents;

I am a graduate student at Addis Ababa University School of Commerce and currently conducting a research for the completion of my Master's degree in marketing management. This questionnaire is designed to collect data on Measuring Customer Based Brand Equity (CBBE) on various handset mobile phone brands in Ethiopia mobile phone market. Please take a few minutes of your time to answer this questionnaire about your view and experience with regards to the Ethiopian mobile phone market. Your willingness and cooperation in giving genuine information is well appreciated and the information you provide will be used for academic purpose and will be kept in strict confidentiality.

If you would like further information about this study, or have problem in completing this questionnaire please contact me at your convenient via +2519 21 88 86 60 or email: danielelyasse@gmail.com.

Thank you for your cooperation!!!

Instruction: Please mark your answer with a tick (√) in the space provided, No need of writing your name.

1) Are you familiar with the following mobile phone brands listed from (a-d)?

a) TECHNO b) SAMSUNG c) HUAWEI d) SMADL

Yes ☐ No ☐

If you have answered 'No' for question No. 1(one) above, this is the end of the questionnaire for you. Once again, many thanks for your cooperation; if you have answered 'Yes' from the four listed brands choose the one you are most familiar.

TECHNO ☐ **HUAWEI** ☐

SAMSUNG ☐ **SMADL** ☐

PART I: General information of Respondent's

2) **Gender** Male ☐ Female ☐

3) **Age** 18- 25 ☐ 26-35 ☐ 36-50 ☐

4) Your Educational Background

<12th Grade ☐ Diploma ☐ Maters Degree ☐

12 Complete ☐ Bachelor's Degree ☐ PhD ☐

PART II: The statements below are designed so that they give information on which factors Customer Based Brand Equity (CBBE) can be affected. The statements drawn ("X") are referring to the brand you have selected in question 1(one) above.

Please circle the numbers in the answer boxes that reflect your rating.

Item code	Questions	Rating scale				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PQ1	I trust the quality of products from "X"	**1**	**2**	**3**	**4**	**5**
PQ2	Products from "X" would be of very good quality	**1**	**2**	**3**	**4**	**5**
PQ3	Products from "X" offer excellent features	**1**	**2**	**3**	**4**	**5**
BAW1	Some characteristics of "X" come to my mind quickly	**1**	**2**	**3**	**4**	**5**
BAW2	I can recognize "X" quickly among other competing brands	**1**	**2**	**3**	**4**	**5**
BAW3	I am familiar with "X" brand	**1**	**2**	**3**	**4**	**5**
BAS1	"X" has very unique brand image, compared to competing brands	**1**	**2**	**3**	**4**	**5**

BAS2	I respect and admire people who owns "X"	**1**	**2**	**3**	**4**	**5**
BAS3	I like the brand image of "X"	**1**	**2**	**3**	**4**	**5**
BAS4	I like and trust the company, which makes "X" products	**1**	**2**	**3**	**4**	**5**
BL1	I consider myself to be loyal to "X"	**1**	**2**	**3**	**4**	**5**
BL2	When buying mobile phone, "X" would be my first choice	**1**	**2**	**3**	**4**	**5**
BL3	I will keep on buying "X" as long as it provides me satisfied products	**1**	**2**	**3**	**4**	**5**
BL4	I am still willing to buy "X" even if its price is a little higher than that of its competitors	**1**	**2**	**3**	**4**	**5**
BL5	I would love to recommend "X" to my friends	**1**	**2**	**3**	**4**	**5**
OBE1	Even if another brand has the same features as "X", I would prefer to buy "X"	**1**	**2**	**3**	**4**	**5**
OBE2	If another brand is not different from "X" in any way, it seems smarter to purchase	**1**	**2**	**3**	**4**	**5**
OBE3	"X" is more than a product to me	**1**	**2**	**3**	**4**	**5**

Thank You!!!

APPENDIX-A2 QUESTIONNAIRE IN AMHARIC

አዲስ አበባ ዩኒቨርሲቲ ንግድ ሥራ ትምህርት ቤት
አመራርድህረ ምረቃ ትምህርት ክፍል

የተከበሩ ምላሽ ሰጪ፤

በአዲስ አበባ ዩንቨርስቲ ንግድ ሥራ ትምህርት ቤት የሁለተኛ ዲግሪ የገበያ አመራር ተማሪ ስሆን ይህ መጠይቅ ለማስተርስ ዲግሪ ማሟያ የሚውል ነው፡፡ የዚህ መጠይቅ ዓላማ የተለያዩ ተንቀሳቃሽ ስልክ ብራንዶች እሴትን ለመለካት በተጠቃሚዎች አመለካከት ላይ በመመስረት በኢትዮጵያ የተንቀሳቃሽ ስልክ ገበያ ውስጥ መረጃ መሰብሰብ ነው፡፡ ከጊዜዎ ጥቂት በመውሰድ በኢትዮጵያ የተንቀሳቃሽ ስልክ ገበያ ያሎትን አስተያየትና ልምድ በመጠይቁ መሠረት መልሶን ያስቀምጡ፡፡ የእርስዎ የተሳትፎ ፈቃደኝነትና ቀና መልስ ለጥናቱ ወሳኝ ነው፡፡ በዚህ መጠይቅ የሚሰበሰበው መረጃ ከላይ እንደተጠቀሰው ለጥናት አላማ ብቻ የሚውል ሲሆን የመረጃው ሚስጥራዊነት የተጠበቀ ነው፡፡

በዚህ ጥናት ዙሪያ ተጨማሪ መረጃ ከፈለጉ ወይም መጠይቁን በመሙላት ለሚያጋጥሞዎ ችግር በሚያመቾት አድራሻ ሊያገኙኝ ይችላሉ፡፡ በስልክ፡-+2519 21 88 86 60 ወይም በኢ-ሜይል፡- danielelyasse@gmail.com.

ለትብብርዎ በቅድሚያ አመሰግናለሁ!!!

መመሪያ፡ እባክዎ በመረጡት ሳጥኑ ውስጥ ይህን "√ " ምልክት ያስቀምጡ፡፡ ስምዎን መጻፍ አስፈላጊ አይደለም፡፡

1. ከእዚህ በታች ከ(ሀ-መ) የተዘረዘሩትን የተንቀሳቃሽ ስልክ ብራንዶች(የንግድ ስም/ምልክቶች) ያውቁዋቸዋል?

ሀ) TECHNO ለ) SAMSUNG ሐ) HUAWEI መ) SMADL

አዎ ☐ አላውቅም ☐

ከላይ በቁጥር 1(አንድ) የሰጡት ምላሽ "አላውቅም" ከሆነ፤ መጠይቁ እዚህ ላይ ያበቃል፡፡ በድጋሚ ለትብብሮ እጅግ በጣም አመሰግናለሁ!!! ነገር ግን ምላሾ "አዎ አውቃለሁ" ከሆነ ከነዚህ ከተዘረዘሩት አራት ብራንዶች(የንግድ ስም/ምልክቶች) ውስጥ የበለጠ የሚስማማዎትን ምልክት ያድርጉ፡፡

TECHNO ☐ **HUAWEI** ☐

SAMSUNG ☐ **SMADL** ☐

ክፍል 1፡ አጠቃላይ የመላሽ መረጃ

2. **ፆታ፡** ወንድ ☐ ሴት ☐

3. **እድሜ፡** 18- 25 ☐ 26-35 ☐ 36-50 ☐

4. **የትምህርት ደረጃ፡**

12ኛ ክፍል ያላጠናቀቀ ☐ ዲፕሎማ ☐ ማስተርስ ዲግሪ ☐

12ኛ ክፍል ያጠናቀቀ ☐ የመጀመሪያ ዲግሪ ☐ ዶክተሬት ዲግሪ ☐

ክፍል 2፡ ከዚህ በታች ያሉት የጥናቱ መጠይቆች የተዘጋጁት የብራንድ እሴትን ተፅእኖ የሚፈጥሩ ነገሮች ፤ የተንቀሳቃሽ ስልክ ደንበኞችን መሰረት ባደረገ መረጃ ለመሰብሰብ ነው፡፡ በመጠይቆቹ "X" ከላይ በተራ ቁጥር 1(አንድ) በተሞላው መሰረት ከመረጡት የተንቀሳቃሽ ስልክ ብራንድ የሚነሳ ነው ፡፡

እባክዎን በሰንጠረዡ በቀኝ በኩል ካሉ የመልስ ደረጃዎች በሚለው ስር ካሉ አምስት ምርጫዎች መካከል የመረጡት ቁጥር ላይ በማክበብ ይተባበሩ፡፡

የጥያቄ መ.ቁ.	ጥያቄዎች	የመልስ ደረጃዎች				
		በጣም አልስማማም	አልስማማም	ገለልተኛ	እስማማለሁ	በጣም እስማማለሁ
PQ1	ብራንድ "X" ጥራት ያለው ምርት እንዳለው አምናለው	**1**	**2**	**3**	**4**	**5**
PQ2	የብራንድ "X" ምርቶች በጣም ጥሩ ጥራት አለው	**1**	**2**	**3**	**4**	**5**
PQ3	የብራንድ "X" ምርቶች እጅግ በጣም ጥሩ ባህሪያት አለው	**1**	**2**	**3**	**4**	**5**
BAW1	አንዳንድ የ"X" ብራንድ ባህሪያቶች ፈጥነው በአእምሮዬ ይመጣሉ	**1**	**2**	**3**	**4**	**5**
BAW2	"X" ብራንድን ከሌሎች ተወዳዳሪ ምርቶች መካከል መለየት እችላለሁ	**1**	**2**	**3**	**4**	**5**
BAW3	"X" ብራንድ ምን እንደሚመስል አውቃለሁ	**1**	**2**	**3**	**4**	**5**
BAS1	"X" ብራንድን ሳስብ ከሌሎች ተወዳዳሪ ብራንዶች አንፃር የተለየ ነገር አለው	**1**	**2**	**3**	**4**	**5**
BAS2	"X" ብራንድን የሚይዙ ሰዎች አክብሮትና አድናቆት አለኝ	**1**	**2**	**3**	**4**	**5**
BAS3	ስለ "X" ብራንድ ማሰብ ጥሩ ትዝታዎች ያስታውሰኛል	**1**	**2**	**3**	**4**	**5**

BAS4	“X” ብራንድን የሚያመርተውን ድርጅት እወደዋለሁ እተማመንበታለሁ	**1**	**2**	**3**	**4**	**5**
BL1	እራሴን እንደ የ“X” ብራንድ ታማኝ ደንበኛ ነው የምቆጥረው	**1**	**2**	**3**	**4**	**5**
BL2	ተንቀሳቃሽ ስልክ በምገዛበት ጊዜ “X” ብራንድ የመጀመሪያ ምርጫዬ ነው	**1**	**2**	**3**	**4**	**5**
BL3	“X” ብራንድ የሚያረካ ምርት እስካቀረበልኝ ድረስ ለመግዛት ዝግጁ ነኝ	**1**	**2**	**3**	**4**	**5**
BL4	የ“X” ብራንድ ዋጋ ከሌሎች ተወዳዳሪ ብራንዶች ዋጋ በመጠኑ ከፍ ቢልም ለመግዛት ፈቃደኛ ነኝ	**1**	**2**	**3**	**4**	**5**
BL5	ጓደኞቼ “X” ብራንድን እንዲገዙ መጠቆም እወዳለሁ	**1**	**2**	**3**	**4**	**5**
OBE1	ምንም እንኳ ሌላ የተንቀሳቃሽ ስልክ ብራንድ እንደ “X” ተመሳሳይ ባህሪይ ቢኖረውም ፤ እኔ ለመግዛት የምፈልገው የ“X” ብራንድ ምርትን ነው	**1**	**2**	**3**	**4**	**5**
OBE2	ሌላ የተንቀሳቃሽ ስልክ ብራንድ በማናቸውም ሁኔታ ከ“X” ጋር ተመሳሳይ ቢሆን እንኳ፤ የ“X” ብራንድ ምርት ከመግዛት ወደኋላ አልልም	**1**	**2**	**3**	**4**	**5**
OBE3	የ“X” ብራንድ ምርት ለእኔ የተለየ ነው	**1**	**2**	**3**	**4**	**5**

አመሰግናለሁ!!!

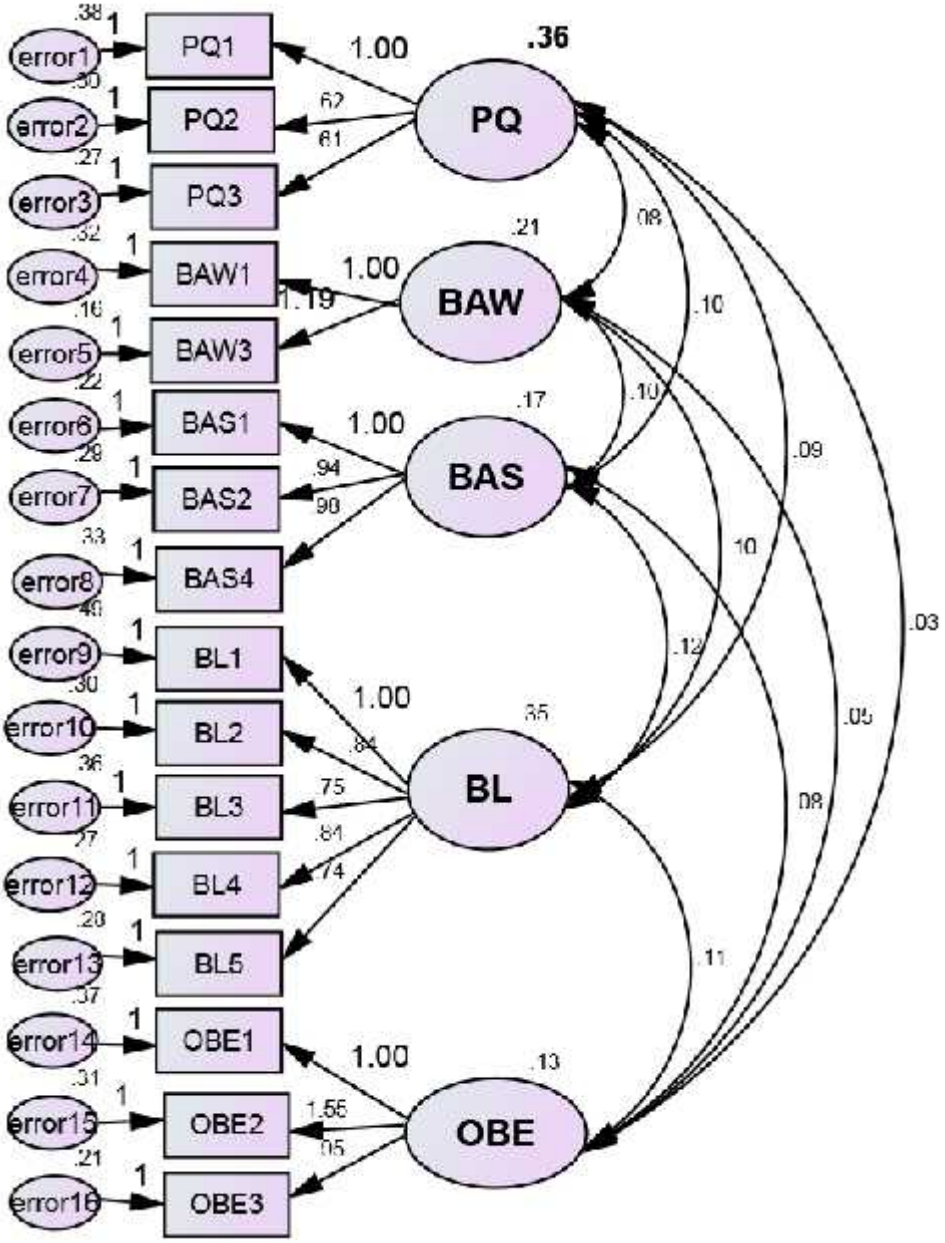
APPENDIX-B Descriptive Statistics of Mean, S.D., Skewness and Kurtosis

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
PQ1	336	3.6964	.86566	-.065	.133	-.736	.265
PQ2	336	3.9494	.66499	-.005	.133	-.562	.265
PQ3	336	3.8899	.63932	.100	.133	-.575	.265
BAW1	336	3.8988	.72598	.157	.133	-1.088	.265
BAW2	336	4.0952	.61560	-.059	.133	-.386	.265
BAW3	336	4.0149	.67564	-.018	.133	-.797	.265
BAS1	336	3.8304	.62612	.140	.133	-.539	.265
BAS2	336	3.6220	.66691	.548	.133	-.627	.265
BAS3	336	4.0714	.64249	-.065	.133	-.577	.265
BAS4	336	3.8155	.70087	.220	.133	-.853	.265
BL1	336	3.5000	.92074	.092	.133	-.824	.265
BL2	336	3.8690	.74160	.126	.133	-.978	.265
BL3	336	3.9940	.74511	-.252	.133	-.492	.265
BL4	336	3.9643	.72394	-.088	.133	-.714	.265
BL5	336	3.9375	.68608	-.031	.133	-.579	.265
OBE1	336	4.2470	.70499	-.492	.133	-.498	.265
OBE2	336	4.2143	.78526	-.472	.133	-1.000	.265
OBE3	336	4.5714	.56854	-.920	.133	-.154	.265
Valid N (listwise)	336						

Appendix-C Pearson Correlation Matrix

	PQ1	PQ2	PQ3	BAW1	BAW2	BAW3	BAS1	BAS2	BAS3	BAS4	BL1	BL2	BL3	BL4	BL5	OBE1	OBE2	OBE3
PQ2	.398	1.000	.317	.169	.136	.201	.180	.112	.071	.038	.144	.102	.042	.046	.111	.084	.089	-.002
PQ3	.403	.317	1.000	.002	.133	.107	.184	.147	.085	.194	.119	.108	.136	.146	.209	.147	.130	.026
PQ1	1.000	.398	.403	.222	.166	.120	.268	.157	.071	.080	.180	.068	.076	.021	.048	.143	.008	-.016
BAW1	.222	.169	.002	1.000	.235	.508	.297	.217	.118	.104	.138	.108	.109	.158	.071	.171	.080	.090
BAW2	.166	.136	.133	.235	1.000	.169	.166	.052	.179	.152	.037	.073	.099	.068	.064	.111	.075	.032
BAW3	.120	.201	.107	.508	.169	1.000	.324	.211	.218	.226	.156	.242	.178	.233	.189	.155	.174	.149
BAS1	.268	.180	.184	.297	.166	.324	1.000	.354	.268	.357	.251	.171	.190	.230	.218	.176	.238	.198
BAS2	.157	.112	.147	.217	.052	.211	.354	1.000	.223	.406	.134	.244	.140	.232	.170	.129	.224	.138
BAS3	.071	.071	.085	.118	.179	.218	.268	.223	1.000	.241	.177	.214	.163	.115	.234	.159	.224	.076
BAS4	.080	.038	.194	.104	.152	.226	.357	.406	.241	1.000	.134	.246	.232	.193	.206	.117	.267	.168
BL1	.180	.144	.119	.138	.037	.156	.251	.134	.177	.134	1.000	.402	.496	.430	.456	.057	.157	.006
BL2	.068	.102	.108	.108	.073	.242	.171	.244	.214	.246	.402	1.000	.350	.542	.412	.199	.284	.213
BL3	.076	.042	.136	.109	.099	.178	.190	.140	.163	.232	.496	.350	1.000	.370	.408	.071	.216	.135
BL4	.021	.046	.146	.158	.068	.233	.230	.232	.115	.193	.430	.542	.370	1.000	.386	.228	.355	.238
BL5	.048	.111	.209	.071	.064	.189	.218	.170	.234	.206	.456	.412	.408	.386	1.000	.248	.330	.230
OBE3	-.016	-.002	.026	.090	.032	.149	.198	.138	.076	.168	.006	.213	.135	.238	.230	.362	.407	1.000
OBE1	.143	.084	.147	.171	.084	.155	.176	.129	.159	.117	.057	.199	.071	.228	.248	1.000	.319	.362
OBE2	.008	.089	.130	.080	.075	.174	.238	.224	.267	.157	.284	.216	.355	.330	.319	1.000	.407	

Appendix-D Confirmatory Factor Analysis (CFA) for Measurement and Model fit



Appendix-E: Model Measurement Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	42	196.340	94	.000	2.089
Saturated model	136	.000	0		
Independence model	16	1282.497	120	.000	10.687

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.028	.930	.899	.643
Saturated model	.000	1.000		
Independence model	.114	.555	.496	.490

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.847	.805	.914	.888	.912
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.783	.663	.714
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	102.340	65.964	146.479
Saturated model	.000	.000	.000
Independence model	1162.497	1051.151	1281.273

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.586	.305	.197	.437
Saturated model	.000	.000	.000	.000
Independence model	3.828	3.470	3.138	3.825

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.057	.046	.068	.147
Independence model	.170	.162	.179	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	280.340	284.830	440.659	482.659
Saturated model	272.000	286.541	791.127	927.127
Independence model	1314.497	1316.208	1375.571	1391.571

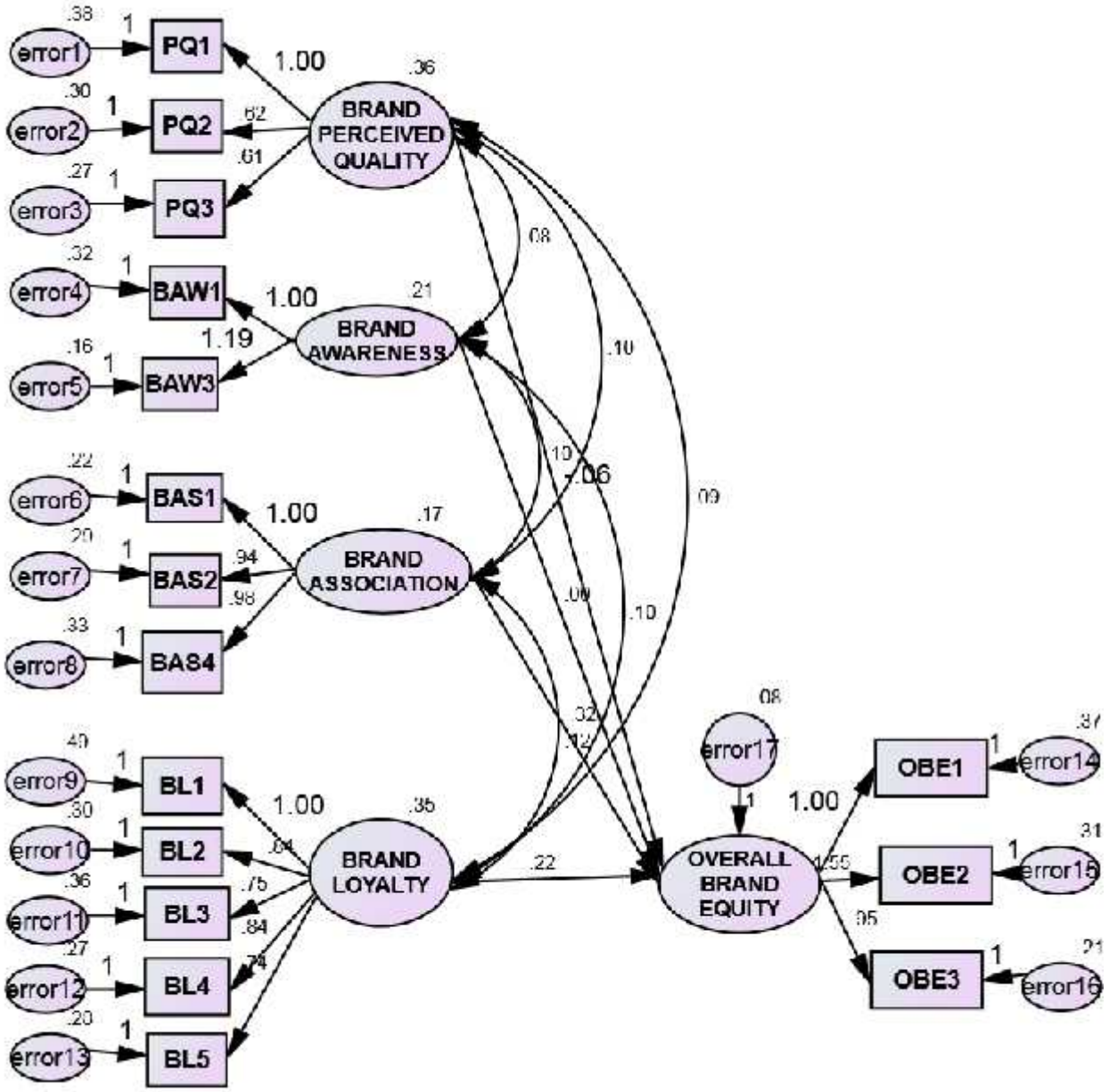
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	.837	.728	.969	.850
Saturated model	.812	.812	.812	.855
Independence model	3.924	3.591	4.278	3.929

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	201	220
Independence model	39	42

Appendix-F Structural Model Fit & Cause-Effect Relationship Summery



Analysis Summary

Computation of degrees of freedom (Default model)

Number of distinct sample moments:	136	**Minimum was achieved**
Number of distinct parameters to be estimated:	42	Chi-square = 196.340
Degrees of freedom (136 - 42):	94	Degrees of freedom = 94
		Probability level = .000

Appendix-G Text output of Estimates of the structural model

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
OABE	<---	BRAND_AWARENESS	.003	.077	.042	.967	
OABE	<---	BRAND_ASSOCIATION	.322	.118	2.720	.007	
OABE	<---	PERCEIVED_QUALITY	-.056	.054	-1.033	.302	
OABE	<---	BRAND_LOYALTY	.218	.061	3.596	***	
PQ1	<---	PERCEIVED_QUALITY	1.000				
PQ2	<---	PERCEIVED_QUALITY	.620	.095	6.508	***	
PQ3	<---	PERCEIVED_QUALITY	.611	.093	6.548	***	
BAW3	<---	BRAND_AWARENESS	1.190	.193	6.160	***	
BAS1	<---	BRAND_ASSOCIATION	1.000				
BL1	<---	BRAND_LOYALTY	1.000				
BL2	<---	BRAND_LOYALTY	.842	.087	9.678	***	
BL3	<---	BRAND_LOYALTY	.747	.085	8.820	***	
BL4	<---	BRAND_LOYALTY	.844	.086	9.851	***	
BL5	<---	BRAND_LOYALTY	.739	.079	9.317	***	
BAS2	<---	BRAND_ASSOCIATION	.939	.125	7.529	***	
BAS4	<---	BRAND_ASSOCIATION	.979	.131	7.493	***	
BAW1	<---	BRAND_AWARENESS	1.000				
OBE2	<---	OABE	1.548	.236	6.558	***	
OBE3	<---	OABE	.949	.149	6.385	***	
OBE1	<---	OABE	1.000				

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

			Estimate
OVERALL_BRAND_EQUITY	<---	BRAND_AWARENESS	.004
OVERALL_BRAND_EQUITY	<---	BRAND_ASSOCIATION	.375
OVERALL_BRAND_EQUITY	<---	PERCEIVED_QUALITY	-.095
OVERALL_BRAND_EQUITY	<---	BRAND_LOYALTY	.365
PQ1	<---	PERCEIVED_QUALITY	.698
PQ2	<---	PERCEIVED_QUALITY	.563
PQ3	<---	PERCEIVED_QUALITY	.577
BAW3	<---	BRAND_AWARENESS	.806
BAS1	<---	BRAND_ASSOCIATION	.659
BL1	<---	BRAND_LOYALTY	.647
BL2	<---	BRAND_LOYALTY	.676
BL3	<---	BRAND_LOYALTY	.597
BL4	<---	BRAND_LOYALTY	.694
BL5	<---	BRAND_LOYALTY	.641
BAS2	<---	BRAND_ASSOCIATION	.581
BAS4	<---	BRAND_ASSOCIATION	.577
BAW1	<---	BRAND_AWARENESS	.630
OBE2	<---	OABE	.699
OBE3	<---	OABE	.592
OBE1	<---	OABE	.503

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
PERCEIVED_QUALITY	<-->	BRAND_LOYALTY	.086	.029	2.985	.003	
PERCEIVED_QUALITY	<-->	BRAND_ASSOCIATION	.105	.024	4.399	***	
PERCEIVED_QUALITY	<-->	BRAND_AWARENESS	.082	.025	3.273	.001	
BRAND_AWARENESS	<-->	BRAND_LOYALTY	.097	.024	3.982	***	
BRAND_AWARENESS	<-->	BRAND_ASSOCIATION	.101	.021	4.766	***	
BRAND_ASSOCIATION	<-->	BRAND_LOYALTY	.124	.023	5.352	***	

Correlations: (Group number 1 - Default model)

			Estimate
PERCEIVED_QUALITY	<-->	BRAND_LOYALTY	.240
PERCEIVED_QUALITY	<-->	BRAND_ASSOCIATION	.421
PERCEIVED_QUALITY	<-->	BRAND_AWARENESS	.298
BRAND_AWARENESS	<-->	BRAND_LOYALTY	.359
BRAND_AWARENESS	<-->	BRAND_ASSOCIATION	.537
BRAND_ASSOCIATION	<-->	BRAND_LOYALTY	.505

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
PERCEIVED_QUALITY	.364	.071	5.162	***	
BRAND_AWARENESS	.209	.045	4.626	***	
BRAND_ASSOCIATION	.170	.031	5.455	***	
BRAND_LOYALTY	.353	.059	5.965	***	
error17	.078	.021	3.690	***	
error1	.383	.058	6.572	***	
error3	.272	.029	9.466	***	
error5	.159	.046	3.451	***	
error6	.221	.025	8.726	***	
error11	.356	.032	11.183	***	
error12	.271	.027	9.967	***	
error13	.276	.026	10.714	***	
error9	.492	.046	10.650	***	
error10	.298	.029	10.248	***	
error2	.301	.031	9.741	***	
error7	.294	.029	10.178	***	
error8	.327	.032	10.247	***	
error4	.317	.040	7.949	***	
error14	.370	.034	10.904	***	
error15	.314	.044	7.127	***	
error16	.209	.022	9.581	***	

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

	Estimate
OVERALL_BRAND_EQUITY	.377
OBE3	.351
OBE2	.489
OBE1	.253

	Estimate
BAW1	.397
BAS4	.332
BAS2	.338
PQ2	.317
BL2	.457
BL1	.418
BL5	.411
BL4	.482
BL3	.356
BAS1	.435
BAW3	.650
PQ3	.333
PQ1	.487

Appendix-H Table of Factor loadings

Pattern Matrix[a]

	Component				
	1	2	3	4	5
BL1	.876		-.271	.100	
BL3	.758		-.148		
BL4	.676		.213		
BL2	.662		.127		
BL5	.658		.189		-.106
BAS4		.845			
BAS2		.746			
BAS1		.521		.141	.265
BAS3		.520			
OBE3			.815	-.106	
OBE1		-.151	.774	.167	.109
OBE2	.131	.184	.620		
PQ1				.786	.114
PQ3		.131		.759	-.269
PQ2		-.140		.708	.150
BAW1					.883
BAW3					.727
BAW2				.171	.389

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 6 iterations.