

UNIVERSITY OF KWAZULU-NATAL

**FACTORS AFFECTING CHOICE OF AND SATISFACTION WITH MOBILE
PHONES: AN INVESTIGATION OF UNIVERSITY OF KWAZULU-NATAL
(PIETERMARITZBURG) STUDENTS**

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**A dissertation submitted in fulfillment of the requirements for the degree of
Master of Commerce**

**School of Management, IT and Governance
College of Law and Management Studies**

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2016

DECLARATION

I, Bridget Christabel Ijumba declare that,

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I would like to thank the Lord Almighty, who guided me through this long journey, for it is through His Grace that I successfully completed my study.

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To my immediate family for support, believing in me and praying for my success endlessly.

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DEDICATIONS

This research is dedicated to my families; the Ijumba and Tumwesigye families. We can do all through Him Who gives us strength.

ABSTRACT

Today, the liveliest market environment is the mobile phone market. This is because of the growth and the advancement in technology. Thus, studying the consumer buying decision process of these markets can show marketers what factors influence the markets' choices of mobile phones. The growing competition by mobile phone companies has led to increased concern regarding which mobile phone device is beneficial to own as a consumer considering the vast number of mobile phone brands and versions available to the market. This concern warrants the need to investigate factors that currently determine consumers' choices of mobile phones taking into account the saturated level of the mobile phone industry. The intention of this study is to examine if factors previously examined in the previous research studies in different contexts also influence the South African environment. Furthermore, to identify the unique set of factors that impact South African customers' selection of and satisfaction with mobile phones. The main objective of this study is to reveal key factors that affect the choice and satisfaction of mobile phones among university students of KwaZulu-Natal, Pietermaritzburg campus.

Through a convenience sampling technique, structured questionnaires were used to collect primary data from 257 mobile phone owners. The questionnaire comprised of 5-point Likert scale questions and open-ended questions. Descriptive statistics, exploratory factor analysis, custom tables, and NVivo were used to analyse data that was obtained from the students. Results of the descriptive statistics showed that product features and design was a major factor influencing the choice of mobile phones. Overall performance was a major factor contributing to the satisfaction of mobile phones. Battery life was the main feature that consumers considered when acquiring a mobile phone.

The exploratory factor analysis results revealed six factors that contributed to the choice of mobile phones. Namely; marketing elements, social factors, features of the mobile phone, durability and portability, brand name and cost/price. Results of six factors that contributed to the satisfaction of mobile phones included; internal, external & operation attributes of the mobile phone, style, small mobile phones, and cost/price. The results also revealed six factors that students considered when purchasing a mobile phone. These are; the size of the mobile phone, output attributes of the mobile phone, the build/make of the mobile phone, basic model, technology features and generation of the mobile phone.

The custom tables revealed that the main five factors that students wish to see improved on their mobile phones include; battery power, memory size camera, phone design and audio capacity. Furthermore, the results revealed that apart from the factors revealed in the exploratory factor analysis, the following factors affect choice, satisfaction and features students seek when purchasing a mobile phone; battery life, camera, and security features. Overall, students agreed to be satisfied with their current mobile devices.

This study is important because the student market is vibrant and fall in the category of early adopters and early majority. Marketers will be able to understand this market together with their needs in reference to mobile devices. This research will be beneficial to telecommunications managers and mobile phone manufacturers to comprehend the mobile phone requirements of the students' segment and align suitably their product designs and marketing communications strategies. The scope of this study is limited to university students of the University of KwaZulu-Natal, Pietermaritzburg campus. The study can be adopted to a broader population group thus improving the scope for mobile phone manufacturers.

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KEY TERMS

Mobile phones; Consumer Choice; Consumer Behaviour; Consumer Satisfaction; University of KwaZulu-Natal students.

LIST OF ACRONYMS

GPRS	General Packet Radio Service
GPS	Global Positioning System
PDA	Personal Digital Assistant
SIM	Subscriber Identity Module
SMS	Short Message Service
SPSS	Statistical Package for the Social Sciences
UKZN	University of KwaZulu-Natal
WCDMA	Wideband Code Division Multiple Access
Wi-Fi	Wireless Fidelity
WLAN	Wireless Local Area Network

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction and Background of the Study

Devices currently known as mobile phones existed prior to World War II (Gow & Smith, 2006). The phone technology dates to 1908 when Transcontinental Aerial and Telephone Companies were owned by Professor Albert Jahnke and Oakland. In the 1940s, the mobile phone technology was developed and later in the 1980s, it became widely available (Gow & Smith, 2006). The first handheld mobile phone was produced by Motorola Company in 1973. The early mobile telephone systems had strong transmitters that covered 20 to 30 miles from a tall roof (Frenkiel, no date). The transmitters functioned like broadcast systems. The usage of the same channel another call required a range of 50 miles or more (Frenkiel, no date). The initial mobile phones were heavy, Short Message Service (SMS) oriented and over expensive in comparison to the portable, SMS data-oriented and more affordable mobile phones present today (Miyashita, 2012). The major innovation shift from analogue to digital data-based mobile technology increased the functionality of mobile phones, resulting in global increased demand and acquisition of mobile phones. The espousal of the digital technology by various manufacturers led to the creation of handsets with smart abilities and functionalities (Frenkiel, no date).

A mobile phone can be defined as a wireless device programmed with the main ability to make phone calls and receive text messages, among other functions. The mobile phones produced today are more portable and capable of carrying out several functions compared to the initial mobile phones. Mobile phones have various features that include: games, music, camera, Global Positioning System (GPS), voice-active dialing, editing filters, video player and Microsoft Office functions (Agar, 2013). There are standard mobile phones and smartphones. The standard mobile phones perform basic functions of calling, sending text messages, telling time, alarm clock and calendar. The smart mobile phone is the advanced version of the standard functions. A mobile device programmed with an advanced operating system is known as a smartphone (Parui, 2015). The advanced operating system is a technology that enables a mobile phone to act as a pervasive convenient computer that fits in a user's pocket (Ballagas, Borchers, Rohs & Sheridan, 2006). The smartphone has managed to replace important other devices in users' lives (Sujata, Yatin, Abhijit, Noopur & Ruchi, 2016). Mobile phones have different usages to different users in accordance with

their necessities (Uddin, Zahan & Oheduzzaman, 2014). Function and features of a smartphone include: Personal Digital Assistant (PDA), media player, GPS navigation, touch screen interface, waterproof resistance, run third-party applications and high-resolution cameras. The recent smartphones are improved with broadband internet web browsing, finger scanning security codes, motion sensors, mobile payment mechanisms and Wi-Fi (Parui, 2015).

The wireless technology of mobile phones has grown and developed from the first generation (1G) wireless mobile phones to the fourth generation (4G) mobile phones. It is expected that a fifth generation (5G) mobile phone will be launched in the near future. The evolution of wireless communication comprises of 1G, 2G, 3G and 4G (Jain, Rajput & Dixit, 2015). The first generation (1G) mobile phones used the analogue transmission technology. It offered voice calls between mobile users with limited coverage (both locally and regionally) and no roaming support. It was introduced 37 years ago (Jalil, Latif & Masrek, 2009). The second-generation (2G) mobile phones use digital signal transmission technology. The most common 2G mobile system standard is the Global System for Mobile Communication (GSM). 2G had a higher coverage compared to the 1G. Internet networking was enabled through the commercial introduction of Subscriber Identity Module (SIM) cards. Digital speech and data were enabled at 9.6 Kbit/s. This was introduced in the 1990s (Jalil *et al.*, 2009). The third generation (3G), also known as International Mobile Telecommunications (IMT), was introduced in the 2000s. The 3G was equipped with better and proficient transmission capacity of 125kbps to 2Mbps. It was also introduced with Wideband Code Division Multiple Access (WCDMA), Wireless Local Area Network (WLAN), GPS, and Bluetooth experiences. Currently, “3G details require 144 Kb/s while the user is mobile, 384 Kb/s for walkers, and ups to 2 Mb/s for immobile customers. It is by far the most used reliable wireless transmission technology” (Jain *et al.*, 2015: 89). The fourth generation (4G) is also known as Long Term Evolution (LTE). 4G is the fourth era of mobile phone remote prototypes. It is equipped with high-speed data, global coverage and roaming (Jalil *et al.*, 2009). 4G offers data transmission capability and ascend to mobile applications that were not previously available to mobile users in various areas. The fifth generation (5G) is expected to launch in 2020. It will be an advancement of the LTE technology (Jain *et al.*, 2015).

As the major important and reliable means of communication, mobile phone devices have emerged as a necessity product (Uddin *et al.*, 2014). The leading users of mobile phones are the youth i.e.

Generation Y and the Millennials. The youth today, especially the students, are technologically oriented and are into the usage of digital technology. College students consider the mobile phone as the technology of choice over laptops (Yu & Conway, 2012). The youth are the liveliest market in the adoption of digital technology and its newest applications and features. The youth segment is a segment of important concern to marketers. This is because the youth segment are fast adopters as well as innovative features and technology oriented. Thus, making their adoption curve higher than other segments (Shahzad & Sobia, 2013).

Today, there are various competitive mobile phone companies in the world compared to three decades ago. The dynamic market for mobile phones drives manufacturers to be creative in their innovations to produce differentiating elements that will drive consumers to purchase their brands (Sata, 2013). Availability of a vast number of mobile phones by various manufacturers creates confusion and challenges to consumers' search and purchase behaviours (GSMA Intelligence, 2015). There are factors that impede consumers' choices of mobile phones, which in turn affect their satisfaction.

Several studies have been conducted abroad regarding choice and satisfaction of mobile phones. Moreover, few such studies has been conducted in South Africa, particularly in KwaZulu-Natal province. This study intends to investigate factors that affect or influence choice and satisfaction of mobile phones by students of the University of KwaZulu-Natal, on the Pietermaritzburg campus. The focus was on the students of the University of KwaZulu-Natal, Pietermaritzburg campus because it was least costly and convenient to conduct the study in this sampling location. The significance of this study is to reveal what student consumers consider satisfactory when purchasing mobile phones, which in turn will help manufacturers improve the quality of their products to meet their demands.

1.2 The South African Mobile Phone Industry

In the past few years, the South African mobile phone market adopted the GSM (Global System for Mobile Communications) technology. The adoption created a lively market and massive communication changes. In 1994, Wireless telecommunications were introduced in South Africa. This is the period that South African had just been liberated. The initial South African liberal government approved mobile phone licenses to two networks, Vodacom and MTN. Cell C was the third introduced mobile network in December of 2001 (Koutras, 2006).

Over the past ten years, the South African mobile phone industry has undergone large growth. The mobile penetration rate, according to UNICEF reports (2012), has grown by 100.48%. The cheap SIM cards and prepaid mobile deals have enabled South Africans to acquire mobile phones easily (Beger & Sinha, 2012). South Africa is reported to have the highest number of households with more than one mobile phone compared to other African countries (Beger & Sinha, 2012). The compound annual growth rate for mobile phone sales was expected to have reached US\$1.8 million by the end of 2015 (Beger & Sinha, 2012).

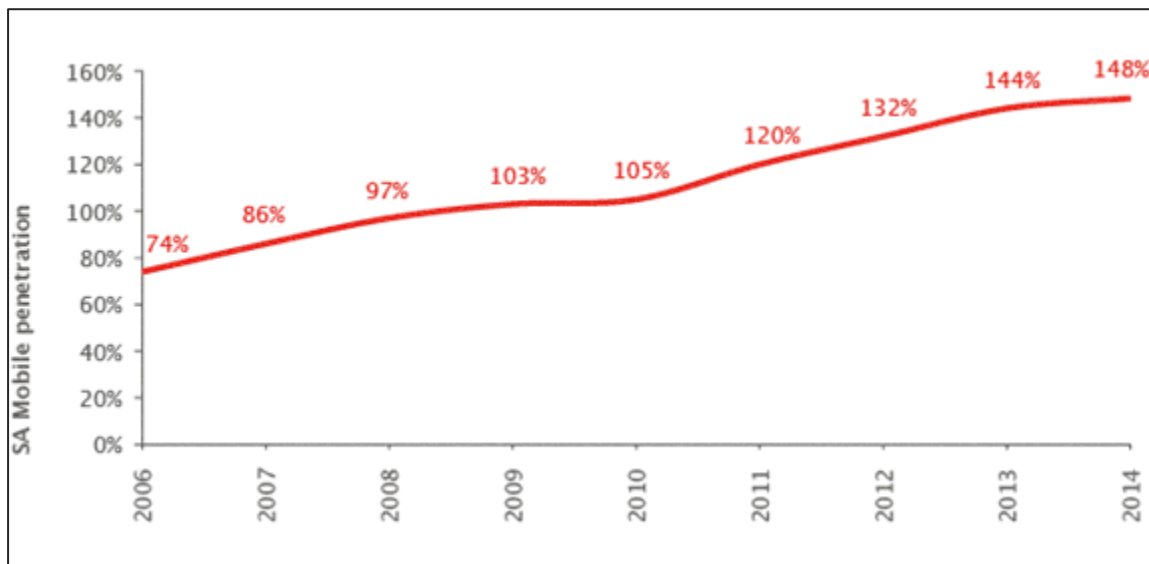


Figure 1.1: Mobile Phone Adoption in South Africa

Source: Adapted from South African Cellular Statistics (2015)

The graph above shows the growth of penetration levels rising from 74% to 148% in 2014. This implies that every South African now owns a mobile phone device and some own more than one mobile phone device. A survey conducted by Pew Research Center in 2014 revealed that 34% of South Africans own smartphones, 55% own non-smartphones, and 10% do not own any cellular phones (Omar, 2015).

The South African mobile market is in its saturation level due to the increase in growth and competition. The increase in penetration levels has led to the increase of a high number of mobile subscribers. There are five cellular providers in South Africa; “Vodacom, MTN, Cell C, Telkom, and Virgin Mobile” (Statistics South Africa, 2015).

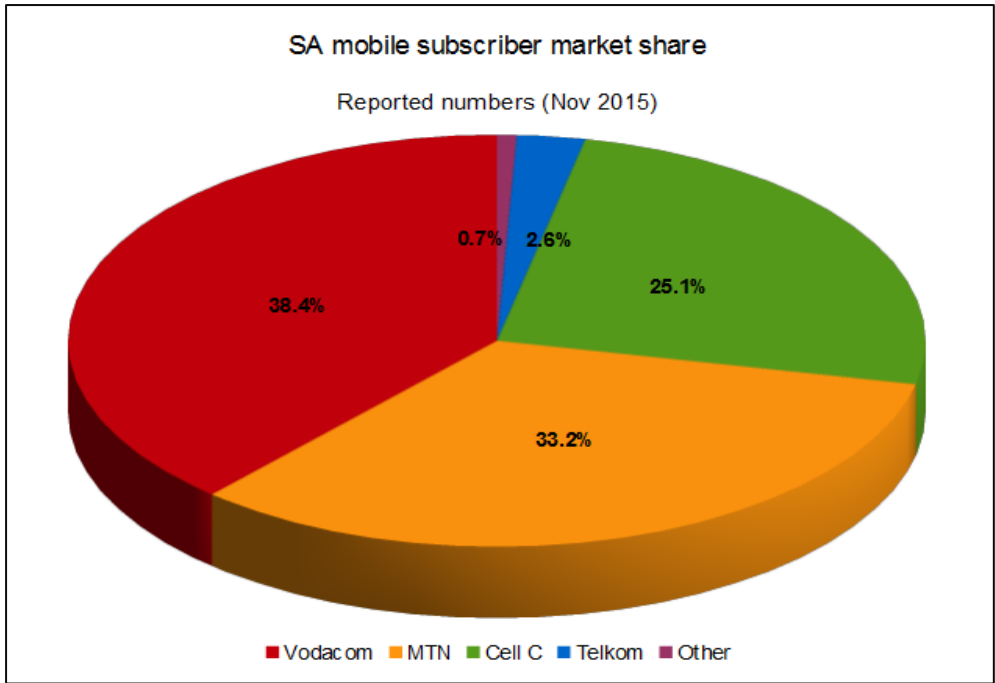


Figure 1.2: South African Cellular Network Market Share

Source: South African subscriber market share (2015)

The above pie chart shows Vodacom as the leading market shareholder in the mobile market by 38.4% followed closely by MTN at 33.2%. Vodacom has experienced total market share decline, despite the growth of its market. Vodacom owned 51% of the market share in 2011 alone, which has since declined to 38.4% in 2015. 25.1% of the market share is held by Cell C. Cell C showed substantial growth from 2014 where the company held a market share of 22.1% (Writer, 2015). Telkom holds 2.6% of the market share and 0.7% represents other cellular networks within the country (Statistics South Africa, 2015).

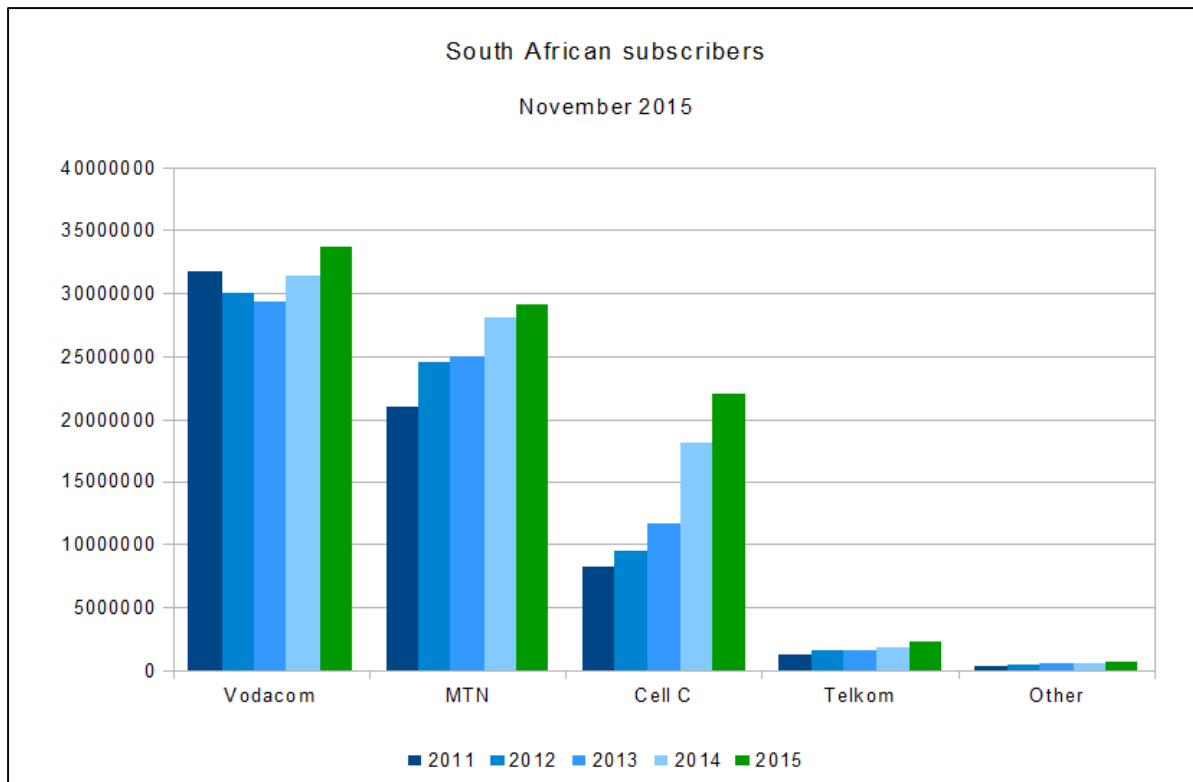


Figure 1.3: South African Cellular Network Subscribers

Source: South African Subscriber Numbers (2015).

The figure above shows the number of mobile subscribers under each cellular network. Writer (2015) reports Cell C showed substantial growth over the past half-decade. The number of subscribers has grown from under 10 million in 2011 to just over 21 million in 2015. Vodacom is still the leading cellular network with the most subscribers over the past five years. The year 2015 alone was reported to have over 30 million Vodacom subscribers in the country. MTN has had a difficult time in securing subscribers in South Africa. MTN has recently picked up its numbers in 2014. Subscribers increased from 25 million to 28 million in 2015. Telkom is still the least preferred cellular network according to the figures. Other networks are also struggling to obtain subscribers (Writer, 2015).

“The growth of the South African mobile industry will depend not only on engineering innovation but, more importantly, on understanding what the consumers want, what will fit their specific lifestyles, and what will improve their lives in the future” (Koutras, 2006). For South African

mobile companies to retain more customers and ensure loyalty to their brands there is a need to investigate consumers' pre-purchase decisions and factors that contribute to their satisfaction.

1.3 Global Mobile Phone Industry

The mobile communication technology has developed i.e. wireless technology, GPS technology, mobile phone, MP3 technology to a large dimension since it first began (Mokhlis & Yaakop, 2012). The mobile phone technology is known to be the fastest growing among the four technologies (GSMA Intelligence, 2015). Globally, seven billion people live in areas covered by mobile cellular networks. This is ninety-five percent (95%) of the world's population. The mobile-broadband networks i.e. 3G and over, have reached 84% of the world's population, but only 67% of the underdeveloped population. Over the past three years, the LTE networks have shown fast development. The growth in its usage has today reached 4 billion people i.e. 53% of the world's population have improved the quality of their internet experience (ITU, 2016).

According to Mobiforge (2014), in 2013 there were 1.8 billion mobile phones sold, which was marginally higher than the mobile phones sold in 2012. This computed to 1.2% compared to 2012. The statistics included smartphones (54-55% of mobile phones sold in 2013) and feature mobile phones (45-46% of mobile phones sold in 2013). The year 2013 was the first year that smartphone sales had overtaken feature phones. For the past 20 years, "it has become clear that brands are among a company's most important assets" and hence, mobile phone brands compete to gain larger market shares (Dadzie, 2011:197). The top five world mobile phones brands and manufacturers according to International Data Corporation (IDC, 2015) (i.e. Samsung, Nokia, Apple, LG, and Huawei) sold a total of 1,821.8 billion units of handsets in 2013.

There are a larger number of mobile phone subscribers worldwide than there are of fixed phones. In 2010, there were 5 billion subscribers, the majority of which were from developed countries (Mokhlis & Yaakop, 2012). According to World Bank Group (2015), in 2013 there were 6.8 billion subscribers, with more than half of the subscribers from the Asian-Pacific region. The International Telecommunications Union (ITU) (2013) reports that the global mobile phone markets' growth has reached maturity stage and growth levels have fallen in both developed and developing countries. According to GSMA Intelligence (2017) the total number of subscribers stands at 4.9 billion. GSMA Intelligence (2016) reports that global connection penetration growth stood at 99% in 2015 and is expected to grow to 114% in 2020.

According to the statistics from World Bank Group (2013), mobile ownership figures across global regions have grown since 2005. Mobile penetration in Western Europe was 126%, accounting for the highest penetration percentage. Africa accounted for only 55% of mobile penetration showing the slowest growth among all the regions. Compared to the population of each region, more mobile phones have been acquired as compared to the population. This is to say that individuals across regions are acquiring more than one mobile phone (World Bank Group, 2013). Below is an illustration showing mobile penetration in 2015 in comparison to 2020 across global regions.

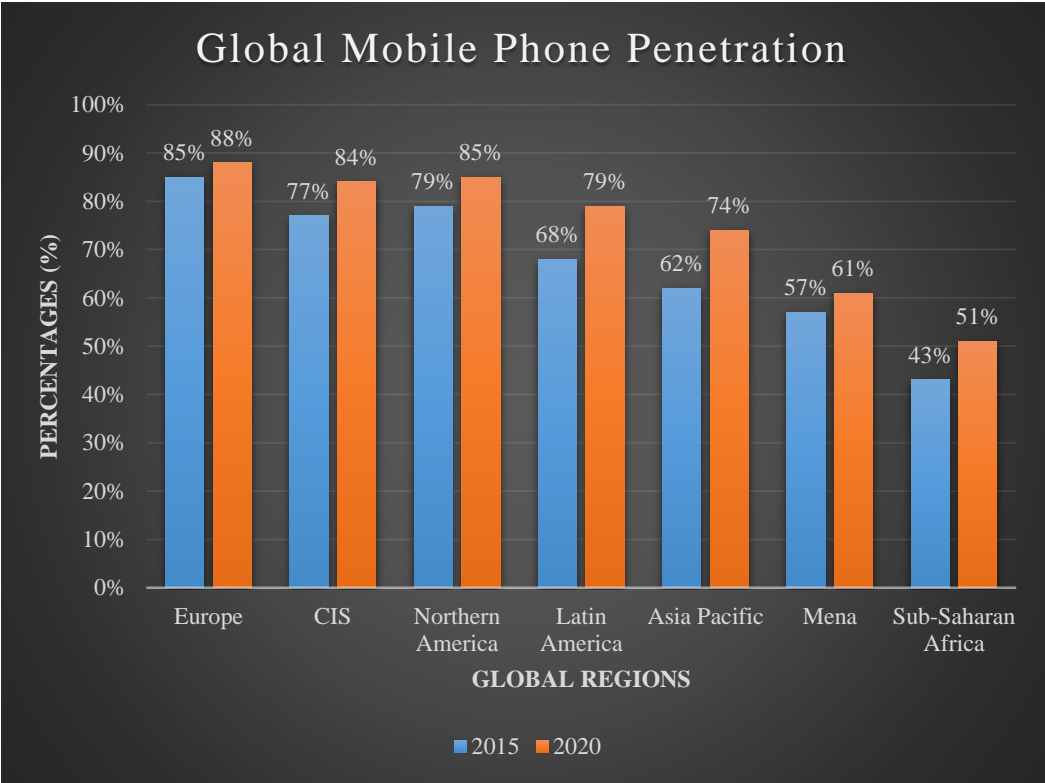


Figure 1.4: Global Mobile Phone Penetration

Source: GSMA Intelligence (2016)

According to GSMA Intelligence (2016), the mobile subscriber base is expected to reach almost three-quarters of the global population. The year 2015 continued to mark the growth of mobile industry. There were 4.7 billion mobile subscribers in 2014 who generated over US\$1 trillion of operating revenues. The mobile industry generated US\$3.1 trillion in 2015 and is expected to generate US\$3.7 trillion by the end of 2020.

“The regional mobile penetration rate ranges from 43% in Sub-Saharan Africa to 85% in Europe. However, global subscriber growth rates continue to decline, due to saturation in developed markets and the technical hitches of connecting low-income populations in developing markets” (GSMA Intelligence, 2016: 8).

The development of 4G has been a chief highlight of 2015. The availability of 4G network in 151 countries in late 2015 led to the growth of a 1-billion-mark connection base. The global subscriber base is expected to reach 5.6 billion a decade from now; this means mobile subscriptions will be acquired by 70% of the global population (GSMA Intelligence, 2016).

1.4 Research problem

The growing competition by mobile phone companies has led to increased concern regarding which mobile phone device is beneficial to own as a consumer considering the vast number of mobile phone brands and versions available to the market. This concern warrants the need to investigate factors that currently determine consumers’ choices of mobile phones taking into account the saturated level of the mobile phone industry. The high market penetration and aggressive market-oriented business strategies by mobile phone companies also call for the need to study what consumers consider satisfactory after making mobile purchases. Rahman (2014) explains that consumers continue to be key centers of concern to marketers and marketing managers. Therefore, as mobile subscribers increase and customers continue to be the main focus, challenges associated with mobile phone satisfaction have to be dealt with.

According to Statistics South Africa (2015), KwaZulu-Natal (KZN) province exhibits slow sales of mobile phones’ growth compared to other provinces. Most households in KZN province are late adopters compared to other provinces such as Gauteng and Western Cape. In 2015, only 43.2% of KZN households had functional cellular telephones and 42.3% of KZN households had access to internet on their cellular phones, with most households residing in Durban.

The intention of the study is to focus on students’ selection of mobile phones in general regardless of brand or mobile network providers. Conducting this study will reveal factors that students of the University of KwaZulu-Natal, Pietermaritzburg campus, consider important before and after purchasing a mobile phone. This study will help marketers and marketing managers to understand the challenges facing consumers prior to the purchase of the mobile phones and post challenges

that lead to satisfaction or dissatisfaction. In understanding these challenges marketers will be capable of tailoring products and services in a manner that satisfies students and in the long-run maximize business profit in a very competitive market.

1.5 Research Purpose

The main purpose of this study was to investigate the underlying key factors that impact the choice of and satisfaction with mobile phones among students at the University of KwaZulu-Natal, Pietermaritzburg campus.

1.6 Research Questions

1. What factors affect the choice of mobile phones among students at the University of KwaZulu-Natal, Pietermaritzburg?
2. What factors could potentially lead to students' satisfaction with mobile phones?
3. What features do students consider when making a purchase choice of a mobile phone?
4. What features need to be improved on mobile phones in order to improve attractiveness in terms of consumer satisfaction?

1.7 Secondary Objectives

Objectives of this study are:

1. To reveal key factors that lead to student choice of the type of mobile phone.
2. To determine key factors responsible for consumer satisfaction pertaining to mobile phones amongst selected groups of the University of KwaZulu-Natal, Pietermaritzburg students.
3. To determine the features students seek in purchasing a mobile phone.
4. To determine the features that need to be improved on mobile phones.

1.8 Significance of the study

This study is relevant because it will help promote understanding of students' decision making process and consumer satisfaction. This study is also important because the student market is vibrant and fall in the category of early adopters and early majority. Marketers will be able to understand this market together with their needs in reference to mobile devices. Moreover, the study will benefit other researchers develop more theories and models that will solve the problem of dissatisfied mobile phone consumers from different environments. Telecomm companies will benefit from this study because it will help them understand what students consider to be important

attributes when contemplating the purchase of mobile phones as well as factors that promote their satisfaction. In understanding these challenges, marketers will be capable of tailoring products and services in a manner that satisfies students and in the long-run maximize business profits. Results from this study could also provide a guideline for marketers to increase sales through the students' segment of KZN province. The factors examined in this study can also be retested to non-student segments of KZN province to uncover similar or different trends.

1.9 Research Methodology

The study adopted exploratory and descriptive research designs. A body of literature review was sought to extract suitable information relevant to the established objectives. The secondary sources of data for this study included both electronic and printed sources such as journals, books, dissertations, annual reports, private sources, and the government documents. The secondary sources used in the study are cited in the bibliography.

A quantitative research approach was employed to extract adequate data from both research designs. Primary data was collected using questionnaires (See Appendix B). Semi-structured questionnaires were used to collect data from 250 students chosen from the overall population of students owning mobile phones. The administering of this type of primary data collection was suitable because questionnaires can reach many respondents in a limited amount of time and at a low cost. Furthermore, the data collection method allowed the students to specify their level of agreement or disagreement regarding their choices of and satisfaction with mobile phones. Due to limited time and cost cutting purposes, convenience sampling was used. The data extracted from the questionnaire was analyzed and presented using descriptive statistics, Microsoft Excel, SPSS and NVivo.

An ethical clearance form was sought to ensure that the research was carried out ethically without causing any form prejudice to the students partaking in the study. In this study, an ethical clearance with the reference number HSS/0814/016M was provided from the Humanities and Social Sciences Ethics Committee (See Appendix C).

1.10 Structure of the Dissertation

The structure of the research consists of six interlinked chapters discussed below in the following order:

Chapter 1: Introduction and Background of the Study

This chapter provides a comprehensive introduction, justification of study and background of the study.

Chapter 2: Literature Review and Theoretical Framework

Chapter 2 contains a comprehensive literature review on consumer choice and buying behavior, customer satisfaction and determinants of customer satisfaction, important features pertaining to mobile phones and the theoretical framework of the study.

Chapter 3: Research Methodology

This chapter contains a detailed explanation of the research approaches used for the study. It provides a thorough approach on how the exploratory research design was conducted to achieve the research objectives.

Chapter 4: Data analysis, Presentation, and Interpretation

Chapter 4 presents the findings and interpretation of empirical results. SPSS was used to capture and analyse the quantitative data from the questionnaire. NVivo was used to capture and analyse the qualitative data of the study. Descriptive statistics was used to present and interpret results.

Chapter 5: Discussion of the Research Findings

This chapter discussed empirical results from Chapter 4 in line with the research objectives of the study. The inclusion of literature discoveries and theoretical analysis of the respective literature review chapter guided the discussion.

Chapter 6: Conclusion and Recommendations of the Study

This chapter provides conclusions and recommendations of each objective based on the findings obtained from Chapter 5 and previous studies. The limitations of the study and suggestions for future research were also discussed.

1.11 Conclusion

This chapter provided a synopsis of what is to be expected in the study. The introduction and background of the study have been discussed, both globally and in the South African context. The research problem has been defined as well as the predicted significance of the study has been

presented, the purpose of the study, the description of research questions, the objectives, significance and research methodology. The outline of the study shows how the research will be organised. The next chapter will provide a detailed overview of choice and satisfaction based on previous studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Chapter Two provides an in-depth overview and discussion of the previous knowledge on consumer choice and satisfaction. The chapter provides a detailed understanding of consumer choice and factors affecting the choice of consumers, customer satisfaction and factors affecting the satisfaction of mobile phones, important features pertaining to mobile phones. Conceptual frameworks on factors affecting choice and satisfaction are presented to show the links between choice and satisfaction and their dependent variables. Furthermore, the theoretical framework and background of the study are presented.

2.2 CONSUMER CHOICE

2.2.1 Definition of Consumer Choice

Beresford and Sloper (2008) define choice as a consequence of the process that involves judgement and assessment of various alternatives and deciding on which alternative serves as best. Consumer choice is the decision that a consumer makes about a product and/or a service (Babutsidze, 2007). Consumer choice is discussed in different contexts across various disciplines of economics, business, marketing, psychology, and sociology. Research shows that studies that have been conducted previously focused on adopted categories, habits, intentions, and attitudes rather than determining satisfaction levels (Mont & Plepys, 2003).

Around the world, consumers are different. They differ in age, race, sex, income, education levels and tastes. They also differ in the variety of goods and services that they decide to purchase. The consumers' choices of products, services and brands are affected by how diverse they are, how they relate to each other and the world around them (Kotler, Armstrong & Tait, 2010).

Numerous complex factors influence consumers' choices. The macro- and micro- economic environment that keeps affecting the development of mobile phones influences the market and the buying behavior of individual consumers (Karjaluo, Karvonen, Kesti, Koivumäki, Manninen, Pakola, Ristola & Salo, 2005). Every market is different and therefore, it is significant for researchers and marketers to comprehend the desires of each mobile phone market and cater for their needs.

Consumers are individuals who are viewed as rational beings who make choices for self-interest (Bray, 2008). Consumers search for information prior to making an actual choice to reduce the risk of uncertainty but often decide from a limited information search source (Rahman, 2014). To understand the consumer choice, there is a need to engage in the study of consumer behaviour. There are different theories that are used to explain consumer behavior since it is a complex term to understand (Bray, 2008).

2.2.2 Consumer Behaviour

Consumer behavior is a complex phenomenon yet it is important for marketers to understand it (Kotler *et al.*, 2010). “Consumer behaviour is defined as the study of consumers (e.g. individuals, groups or organisations) and how they evaluate, select, purchase or seize the purchase of goods and/or services to satisfy their needs. The study of consumer behaviour focuses on how individuals/groups/organisations choose to spend their time, effort, and money on consumption of goods and/or services” (Kengthon, 2010:3).

There are several reasons as to why it is important to study consumer behaviour. Studying consumer behaviour helps to understand who makes the purchasing decisions, who and what influences the purchasing decisions, what persuades the buyers and what makes buyers act (Jisana, 2014) and assists marketers to create competitive strategies that will help businesses to attract and retain more customers (Kengthon, 2010). Studying consumer behaviour involves understanding the consumer’s buying behaviour. The consumer buyer behaviour can be defined as the process, which involves consumers purchasing goods and/or services for immediate/final consumption. “The consumer buying behaviour consists of mental and social processes that lead the consumers to buy what they buy, when, where, why and how they buy. There are several reasons leading to the consumer’s selection of purchase. Consumers respond to different stimuli, which in turn leads the consumers to react the way they do towards products and services” (Kotler *et al.*, 2010: 147).

2.2.3 Factors affecting Consumer Behaviour

Consumer behaviour is influenced by four main categories of characteristics, which are cultural, social, personal, and psychological characteristics. The cultural and social characteristics represent the external influences that affect the buyer’s decision. The personal and psychological characteristics represent the internal influences that affect the buyer’s decision. Figure 6 shows the four characteristics and their sub-elements.

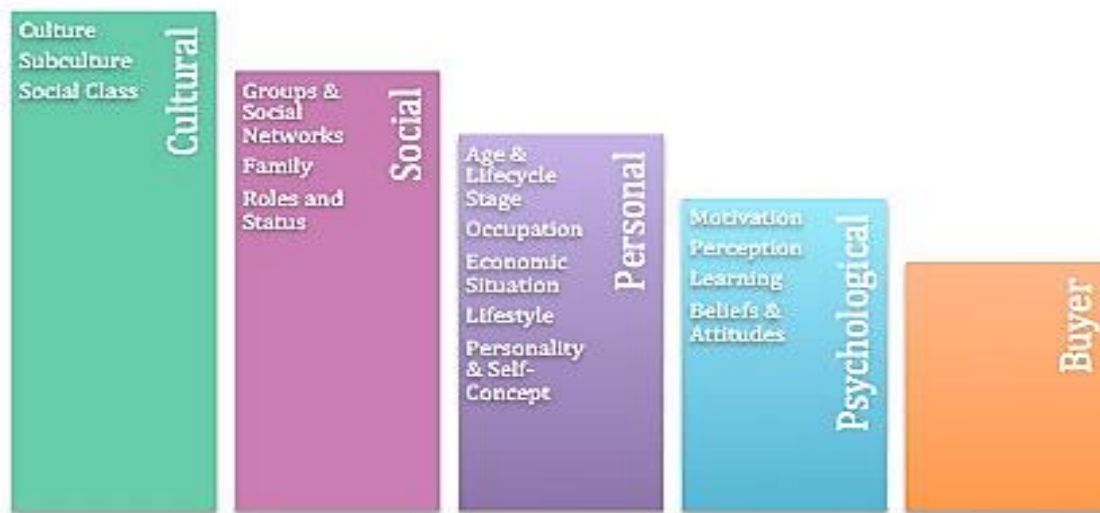


Figure 2.1: Factors Affecting Consumer Behaviour

Source: Adapted from Kotler et al. (2010:148)

2.2.3.1 Cultural factors

The cultural factors are sub-divided into three aspects. Namely: culture, subculture, and social class. All consumers come from and can relate to a particular culture, sub-culture, and social class. Therefore, it is imperative for marketers to grasp how cultural factors influence choice and buying behaviour (Kotler *et al.*, 2010).

Culture: “culture is simply defined as a particular way of life of a group of people” (Rani, 2014:53). Babu et al. (2010) and Kotler et al. (2010) both defined culture as a set of common values, beliefs, perceptions, wants and needs that have been passed on from members. Culture varies from country to country. This means people differ in aspects such as music, religion, food, style and dressing, work patterns, products, and others. These aspects affect the buying behaviour of consumers and how they evaluate products and services. Culture shifts from time to time; therefore, it is not permanent. This reveals that over time, consumers alter the way they meet needs (Kotler *et al.*, 2010). It is, therefore, important for marketers to understand the culture and its shift over time to update their marketing strategies (Rani, 2014).

Sub-culture: every culture is made up of sub-cultures that are groups of people who have similar life values, experiences, and situations (Kotler *et al.*, 2010). These groups of individuals share a nationality, race, religion, geographical location, lifestyle, and other common factors (Jisana,

2014). The sub-cultures are considered as natural market segments by which marketers can use to target position products and services (Kotler *et al.*, 2010).

Social Class: a social class can be defined as an arrangement of groups of individuals in a hierarchical manner to form multiple divisions, which signify social status or standing (Jisana, 2014). The divisions are bound by common values, interests, incomes, occupation, education levels and other factors. Consumers often purchase products and/or services that represent their social standing. An example of products that reflect social standing includes: cars, clothes, and mobile phones. A standard social class structure consists of the lower, middle, and upper class. All the classes are grouped and based on common behaviour patterns, occupations, education, income, and lifestyle (Kotler *et al.*, 2010). Every class makes purchases differently: e.g., the lower class will shop based on lower affordable prices whereas upper class will shop based on quality, innovation, or distinctive features. Marketers need to know how to market products to each class (Rani, 2014).

2.2.3.2 Social Factors

Social factors are further sub-divided into three factors namely: “reference groups, family, and role and status” (Kotler *et al.*, 2010: 153).

Reference groups: these are groups of individuals belonging to a social group that plays a role in influencing consumers’ decisions. The groups that consumers belong to are called membership reference groups (Kotler *et al.*, 2010). The influence of reference groups differs across products and brands (Gajjar, 2013). The influence of the social groups may be direct or indirect (Jisana, 2014). Groups that consumers interact with directly are called primary reference groups i.e. family. The groups that indirectly influence the consumers are called secondary reference groups i.e. celebrities. There are also groups that the consumers wish to join such as sports stars’ club/team; these are called aspirational reference groups. The groups that consumers want to avoid i.e. Illuminati club are called dissociative reference groups. All these groups influence the consumers’ beliefs and attitudes in decision-making. These groups influence consumer choices depending on the product. Luxury products are more likely to be influenced by reference groups as opposed to necessary goods. There are individuals in reference groups who have advanced knowledge, greater personalities, and characteristics, who have a greater social influence on consumers. These individuals are known as opinion leaders. Their recommendation is usually based on their previous

negative or positive experiences (Kotler *et al.*, 2010). Other influences come from the following four; “the initiator, the influencer, the decision-maker, and the buyer” (Rani, 2014: 55). The individual who suggests what good or service should be bought is called the initiator. The individual who offers advice on the good or service choice is called the influencer. The decision-maker refers to the individual who selects the good or service to be purchased. The buyer refers to the individual who actually purchases the good or service (Rani, 2014).

Family: family is the most influential group of the buyer’s behaviour (Jisana, 2014). This is because buyers are most likely to first consult family members when it comes to making a purchase decision. Family forms a sociable environment from which individuals develop their personality and values (Rani, 2014). The family structure can be either a nuclear family or an extended family. Each member of the family plays a significant role in influencing purchase behaviour. Influencers are family members known to inform and recommend products to the rest of the members. Gatekeepers are family members known to either disclose or hold back information from other members. The decider is the member who renders the final purchase decision and makes the purchase. Marketers need to understand how each member of the family plays a role in influencing decision-making (Kotler *et al.*, 2010).

Roles and status: the roles and status of an individual/consumer come from the position he/she takes within a social group i.e. family, work, sports club. The role and status of a consumer affect how the consumer makes purchase decisions. Each consumer possesses diverse roles and status in the community depending upon the groups, alliances, family, association etc. to which he/she belongs (Gajjar, 2013). Consumers will make purchases of products that match and maintain their status and roles in a particular social group. Marketers need to create products that match their consumers’ image in the community (Rani, 2014)

2.2.3.3 Personal Factors

Personal factors that influence consumer choice and buying behaviour include individual characteristics such as; “age and lifecycle stage, lifestyle, economic situation, occupation, personality, and self-concept” (Kotler *et al.*, 2010: 155).

Age and Lifecycle stage: As time passes and consumers age, they tend to shop differently, hence, influencing their purchase behaviours. The lifecycle stages include childhood, bachelorhood, newlyweds, parenthood, and the old/senior adults (Jisana, 2014). Within each life stage the

preferences, tastes, lifestyle and needs also vary. As consumers become pressed with time, they demand convenience products and/or services and effortless shopping. Marketers need to address such demands by making information about quicker shopping alternatives available to consumers (Kotler *et al.*, 2010).

Occupation: the occupation of a consumer influences his/her buying behaviour (Solomon, Russell-Bennett & Previte, 2012). A consumer with a high-level occupational position makes purchase decisions differently from a consumer with a low-level occupational position (Jisana, 2014). According to the International Labour Organisation's (ILO) report (2016), women are making up more than half of the workforce population. More men are engaged in home affairs and raising of the children. Hence, the purchase and decision-making roles have changed for some consumers (Kotler *et al.*, 2010).

Economic Situation: the economic situation affects consumers in different aspects such as inflation, depression, levels of demand and supply, income levels and credit availability. A high-income consumer has a choice of purchasing convenience and luxury goods over necessity goods. A low-income consumer, however, focuses his/her income on meeting necessity goods (Kotler *et al.*, 2010).

Lifestyle: the lifestyle of a consumer can be defined as the way an individual lives and expresses himself/herself in a given environment. This can be seen through the consumers' opinions, values, interests, and activities in the society (Rani, 2014). Consumers' living patterns help marketers track what consumers put their values and efforts on. Therefore, lifestyle influences the choices of consumers (Kotler *et al.*, 2010).

Personality and Self-concept: personality is defined as the unique set of characteristics of an individual. It is also the totality of an individual's behaviour in different situations (Jisana, 2014). Personality involves traits such as; confidence, sociability, self-sufficiency, charisma, ambition, openness, shyness, inquisitiveness, adaptability, defense, and aggressiveness. Marketers create brands with products that match the consumers' personalities and self-images. Therefore, consumers will choose products that match their personality traits (Kotler *et al.*, 2010).

2.2.3.4 Psychological Factors

“The psychological factors that affect consumer choice and buying behaviour are; motivation, perception, learning and beliefs & attitudes” (Kotler *et al.*, 2010: 158).

Motivation: this is the drive that pushes consumers to act on a need (Rani, 2014). A need turns into a motive or a drive if it causes a consumer act to satisfy the need. The need may be a “Physiological need (basic need) i.e. food, thirst; Safety need i.e. protection, security; Social need i.e. a sense of belonging, love, friendship; Esteem need i.e. status, acknowledgement, self-image, self-esteem, or Self-actualization need i.e. realization and self-development” (Kotler *et al.*, 2010: 158). By arranging needs in different levels according to their importance, Maslow’s Theory of Motivation can clarify why consumers are needs driven. A consumer will first be driven to try to satisfy the most pressing need before satisfying a less important need (Jisana, 2014). Below is an illustration of the Maslow’s hierarchy of needs.



Figure 2.2: Maslow’s Hierarchy of Needs

Source: Adapted from Kotler *et al.* (2010:159)

Perception: this is the process in which an individual makes sense of something through selecting, organizing and interpreting information to produce a meaningful experience (Rani, 2014). Consumers form perceptions based on their culture but can change with experience. There are three perceptual processes that a consumer encounters. These are; “selective attention, selective distortion, and selective retention” (Kotler *et al.*, 2010: 159). In selective attention, the consumer pays attention to the information that is useful to them. Selective distortion is where consumers perceive information in a way that matches with their beliefs, attitudes, and thoughts (Solomon *et al.*, 2012). Selective retention is when consumers only store and retain information that is useful to them and forget other information (Jisana, 2014). Because of the perceptual process, marketers

struggle to reach their messages to consumers and hence, resort to repetitive advertising (Kotler *et al.*, 2010).

Learning: consumers learn through taking action. As per learning theorists, the human behaviour is acquired through learning (Gajjar, 2013). “This occurs through the coaction of drives, stimuli, cues, responses, and reinforcement” (Kotler *et al.*, 2010: 160). The learning process alters a consumer’s behaviour through the acquisition of information and experience. Negative experiences lead consumers to disinvest in the product while positive experiences lead consumers to continue repurchasing the product (Rani, 2014).

Beliefs and attitudes: beliefs are descriptive views individuals have of something. An attitude is an evaluation and feeling an individual has toward something (Solomon *et al.*, 2012). Beliefs and attitudes are based on previous knowledge, experiences, opinions, and emotions. Consumers possess certain beliefs and attitudes towards brands and their products. Negative beliefs and attitudes give rise to pattern changes of choice and buying behaviour (Kotler *et al.*, 2010).

2.2.4 Consumer Choice Behaviour

Consumer choice behaviour is examined through a five-step classical problem-solving concept known as the buyer decision process (Kotler, Bowen & Makens, 2006). Consumers buying and purchasing decisions are understood in detail through the study of this model. The buying process begins before the actual purchase and the process continues after purchase is completed (Kotler *et al.*, 2010). The steps are; “need recognition, search for information, evaluation of alternatives, purchase, and post-purchase evaluation” (Kotler *et al.*, 2010: 162). This classical model is appropriate for decision making because it helps explain complex decision-making and it also assumes rational problem-solving behaviour (Karjaluoto *et al.*, 2005).

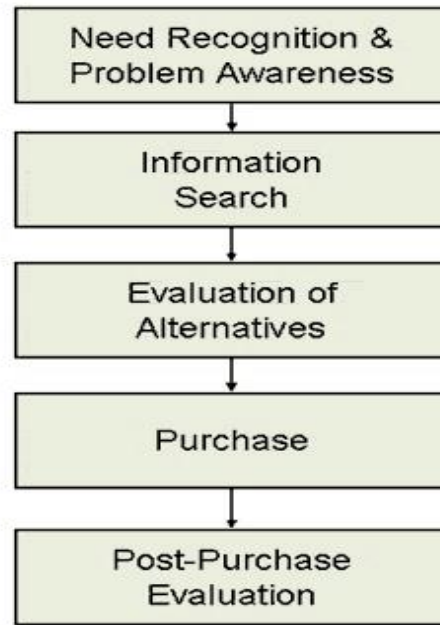


Figure 2.3: The Consumer Decision Process

Source: Babu, Vani, and Panchanatham (2010: 64)

Need recognition: this is the first step of the buying decision process. In this step, the consumer realises the need (or problem) to acquire a product or service (Kotler *et al.*, 2006). This shows that, there is a gap between the consumer's actual and the desired state. Hence, consumers strive to bridge the gap. An internal or external stimulus can cause the need. The need may be a self-actualisation need, esteem need, social need, safety and security need or psychological need (Kotler *et al.*, 2010).

Information search: the second step of the buying decision process is the search for information. In this step, the consumer seeks and gathers information from various sources to satisfy his or her needs (Dziwornu, 2013). This step mainly occurs when the consumer's need is not strong and various sources cannot match the need. In other cases, if the consumer's need is very strong, and the product/service is at close reach to buy, then this step may not occur (Tsafarakis, Grigoroudis & Matsatsinis, 2011). The consumer's memory serves as the first source for a solution to the need. If the memory as an internal source does not provide a satisfying solution, external sources are the next resort. "External sources include personal sources, commercial sources, public sources, and experiential sources. The personal sources include family, friends, neighbours and colleagues who play a part in convincing the buyer what to buy" (Kotler *et al.*, 2010: 163). Commercial sources

include advertising, salesperson, websites, dealers, and packaging, which play a part in persuading the buyer. “Public sources include web searches, consumer-rating businesses, and mass media” (Kotler *et al.*, 2010: 163). Experiential sources include managing, inspecting, and testing the product prior to purchase. Commercial sources are the most common sources for the consumers although personal sources play a major role in the persuasion and evaluation of the product (Kotler *et al.*, 2010).

Evaluation of alternatives: the third step of the buying decision process is the evaluation of alternatives. In this step, the consumer evaluates different brands using gathered information (Kotler *et al.*, 2010). The consumer compares among various alternatives and decides on the most significant alternative according to his/her needs (Dziwornu, 2013). Sometimes, the consumer is an impulse buyer and at other times makes calculations and thinks logically (Kotler *et al.*, 2010). The attributes of a product affect the consumer’s choice. Consumers consider several attributes based on beliefs, attitudes and then make purchase intentions (Balagopal, 2014). Marketers who understand the importance of each attribute to the consumer are more likely to predict the consumer’s choice (Kotler *et al.*, 2010).

Purchase decision: the fourth step of the buying decision process is the decision to purchase. In this step, the consumer purchases the product from the most favoured brand. However, the consumer’s choice may change unexpectedly due to a new influence such as money shortage, when a competing brand’s price falls, and the attitude of others (Kotler *et al.*, 2010).

Post-purchase evaluation: this is the fifth step of the buying process. In this step, the consumer evaluates the product after consumption and decides whether he/she is satisfied. “If expectations are met, then the consumer is satisfied. Likewise, if the expectations are not met, the consumer then becomes dissatisfied” (Kotler *et al.*, 2010: 163). Satisfaction increases more when the consumer’s expectations are exceeded. “The smaller the gap between expectations and performance, the greater the consumer’s satisfaction. This suggests that the sellers promise what their brands deliver” (Kotler *et al.*, 2010: 164). The satisfaction or dissatisfaction of the current purchase is likely to influence the consumer’s next purchase (Dziwornu, 2013). Post-purchase experiences can cause cognitive dissonance. This refers to the buyer’s discomfort after making a purchase. The more difficult the choice, the greater the cognitive dissonance. This may occur due to what the consumer had to sacrifice to obtain the product i.e. it could be giving up on the benefits

that could be obtained from the competing brand. Marketers are therefore advised to help their consumers not only evade but overcome post-purchase dissonance so that a consumer can be satisfied fully (Kotler *et al.*, 2010).

2.2.5 The Process of Choice

For the process of choice to take place, there must be evidence of two or more alternatives from which a consumer can pick from (Beresford & Sloper, 2008). Consumer choice comes into play when a consumer has made a decision to make a purchase. Choice is part of the decision process. The choice phase is imperative between the evaluation of alternative stage and the actual purchase stage (Beresford & Sloper, 2008). According to the journal article by James Bettman and Whan Park of 1980, consumers with moderate knowledge and experience do more choice processing of available information than more knowledgeable and experienced consumers. Consumers tend to use attribute-based evaluations in early and brand-based evaluations in later phases of choice (Kardes, Cronley and Cline, 2014).

The process of human choice behaviour consists of constant reasoning that is viewed as cautious, conscious, and logic-analytic (Van de Kaa, 2010). The choice process involves cognitivism derived from the field of psychology. It explains the complexity of the choice process. In cognitivism, the consumer is considered rational, logical, lively, and perceptive in decision-making. These considerations generate errors in predicting the decisions of an individual. However, cognitivism is still appropriate to examine complex behaviours such as the decision-making process (Balagopal, 2014).

The study of consumer choice began in the early 1960s when individualism was pointed out as the way of making decisions. Researchers argued that perceptions of the environment and the understanding of separate events influenced consumers' decisions and hence show the element of individualism (Babutsidze, 2007). Barlet in 1932 had claimed individuality in psychology prior to the 1960s. Other researchers such as Bauer in 1960 and later Holbrook and Hirschman in 1982 argued that perceived risk and the emotional state of the consumer played a major role in influencing choice. In 1992, Freimuth's study emphasised on the consumer's fit mental awareness of the world and reality when it comes to making a choice. Wright and Lynch in 1994 had their own emphasis on the unique beliefs of consumers about choice. The distinctiveness of the consumer's environment is summed up by the above and other considerations. The discussions

from different researchers on choice prove its complexity and heterogeneity of consumers (Babutsidze, 2007).

Empirical studies have shown that consumer's decisions and choices vary from individuals in different situations. Suggestions by Hawstie and Dawes in 2001 show that different individuals encounter different situations. However, they have the same way of thinking about a decision. This shows that human beings share a collective set of cognitive skills. The limitations of the cognitive skills influence consumers in choice in a way that projects the consumer decision-making process as non-ideal and illogical (Beresford & Sloper, 2008).

2.2.6 Empirical Studies on Choice of Mobile Phones

Several surveys have been carried out regarding the choice of mobile phones. Below are factors that contributed to the choice of mobile phones from previous studies that researched on the choice of cellular mobile phones:

Price: the cost of the mobile phone is one of the dominant and influential factors of choice (Shahzad & Sobia, 2013). Customers are continuously concerned with the prices charged of products (Saeed, Zameer & Raheel, 2012). North, Johnston and Ophoff (2014) conducted a study on South African university students and addressed the factors that affected the students' purchase of mobile phones. The results showed that price was a sensitive factor to students that paid for their own mobile phones than students who had not paid for their mobile phones. Furthermore, price was less important to students that owned smartphones than basic phone and feature phone owners. A study by Riyath and Musthafa (2014) on Sri Lankan university students showed that the most influential factor of mobile phone brand choice was price. Price had the highest mean score of 4.09 among nine variables tested. Middle and lower income earners expect price reduction as technology advances over time and new mobile phones are introduced. Shahzad and Sobia (2013) studied the factors that affected the youth's brand choice of mobile phones of Peshawar (India) private university students. The results revealed that price was among the factors that influenced choice although it was not the leading factor in the survey. Saeed et al. (2012) conducted a research survey to understand the mobile phone buying behaviour of urban and rural consumers in Pakistan. The study showed that rural consumers were more influenced by the price of the mobile phone than urban consumers were. For the urban consumers, the price was the fifth influential factor among seven factors while for the rural consumers, the price was the second influential factor. A similar survey by Soomro and Ghumro (2013) also revealed that consumers

of Sindh preferred to purchase mobile phones if the price was low. Singh and Goyal (2009) piloted a survey to comprehend the difference in importance given to various factors by different age and gender groups. The analysis revealed that respondents aged 50 and above considered price as an important variable when choosing mobile phones. Karjaluoto et al. (2005) carried out a survey in Finland concerning factors affecting consumer choice of mobile phones. The study revealed that price was an influential factor of choice to Finnish students as well as exchange students. The survey also questioned non-students whose results also showed that price was an important factor when it came to purchasing a mobile phone. Sata (2013) conducted a study on consumers of Hawassa town, Ethiopia. The aim of the study was to disclose factors affecting consumer buying behavior of mobile phone devices. The survey revealed that the dominant factor affecting the choice of mobile phones was price. Yaakop and Mokhlis (2012) conducted research on Malaysian university students regarding their choice criteria in mobile phone selection. Their results showed that price was a second influential factor of choice among twenty-nine variables tested. Sujata et al. (2016) conducted a survey among Indian youth to identify the factors that affected their preference of smartphones. The study showed that price was among the examined factors affecting the choice of smartphones. In Odisha, an empirical study was conducted to reveal factors influencing the youth's buying behaviour towards mobile phones. The results showed that discounted price attracted the youth to purchase a mobile phone (Das, 2012). Therefore, price appears as a repetitive influential factor of choice of mobile phones, though it appears not to be a leading factor in many surveys.

Social factors: the social factors include friends, peers, family, status (Kotler *et al.*, 2010). Alshurideh, Bataineh, Alkurdi and Alasmr (2015) conducted a survey on factors affecting mobile phone brand choices among Jordanian university students. The analysis revealed that friends' opinions and family recommendations play an important role when it comes to purchasing mobile phones. Uddin, Xu and Azim (2015) conducted research on factors affecting mobile handset buying decision. The analysis revealed that social identity was among the examined factors influencing the purchase of mobile handsets. Participants revealed that the mobile phone they purchased represented their social status. Sama and Jani (2014) conducted a study in Ahmedabad (India) city to identify the factors that affected consumer buying behavior while buying new mobile phone connection. The analysis showed that friends' recommendations was regarded as among prominent factors that affected the choice of the mobile phones. Sata and Belete (2013)

investigated the factors that affected the decision of purchasing mobile phone devices and the analysis revealed that social influence affected the choice of the participants' mobile phones. Family and friends' recommendation revealed to be among the leading persuasive factors in the youth's brand preference of mobile phones (Shahzad & Sobia, 2013). Karjaluoto et al. (2005) also highlighted that social influence from friends and even the salesperson influenced the choice of mobile phones. In the same study, some respondents admitted they bought new mobile phones to obtain a leader status. Ashfaq and Samreen (2015) conducted research on factors leading to brand switching in cellular phones in Pakistan. The results indicated that among the factors that participants valued as important on choosing a mobile phone include a recommendation by friends. In a similar study by Sata (2013), the social group was among six variables that influenced consumer buying behavior of mobile phone devices of Hawassa consumers. Friends and family recommendations especially for consumers who live alone, increasingly affect brand choice and purchase decisions. "Peers present at the stage of purchase, play an important part in choosing a particular brand, especially with product involvement and rational effects" (Shahzad & Sobia, 2013: 372).

Durability and portability: an investigation by Yaakop and Mokhlis (2012) on mobile phone selection based on consumer choice criteria showed that Malaysian university students considered durability and portability important factors in mobile phone selection. Students want mobile phones that would last long under normal and abnormal circumstances. In addition, the students preferred mobile phones that are lightweight, small, easy to carry and handle. Sata (2013) carried out a similar study on Hawassa consumers regarding the factors that affected consumer buying behavior of mobile phone devices. The results showed that consumers preferred mobile phones that would operate for long durations without any defects. Therefore, the durability of the mobile phone affected their choice of the type mobile phones.

Brand name: the brand name and image of the product affect consumers' choice and purchase decisions. The study on Hawassa (Ethiopia) consumers revealed that brand name and image affected the choice of Hawassa consumers. Among six variables, the brand image had a mean score of 3.448 landing it as the second most influential factor of choice (Sata, 2013). An empirical study by Das (2012) in India showed that among the leading factors consumers consider is a reputable brand. Uddin et al. (2015) investigated factors that were affecting mobile handset buying

patterns and the results showed the brand image as an important influential factor of choice. Sata and Belete's (2013) results also revealed that the brand name was the fourth most important factor affecting the decision of buying mobile phone devices. Akarte and Amishi (2012) aimed to understand various viewpoints of rural consumers in contrast with urban consumers buying behaviour. The study revealed that the brand name of the mobile phone was a more important factor to urban users than rural users. Singh and Goyal (2009) piloted a survey to comprehend the difference in importance placed on various factors by particular age and gender groups. The analysis revealed that respondents aged 18-30 were more influenced by factors such as brand name. Yaakop and Mokhlis (2012) study also showed that the Malaysian students considered the brand name and image when purchasing mobile phones. Saeed et al.'s (2012) study revealed that urban consumers of Pakistan were influenced by the brand image whereas the rural consumers considered the brand image as the least most influential factor of mobile phone choice. The findings from Shahzad and Sobia (2013) exhibited that private university students of Peshawar considered the brand image as among the main factors that influenced the brand choice of mobile phone purchase. The findings from the study conducted on South African university students revealed that the undergraduate students put more emphasis on brand than the postgraduate students. Furthermore, the female students were more driven by brand and trends than the male students (North *et al.*, 2014). The Indian youth of ages 18-25 also alluded to be influenced by brand name when it came to purchasing decisions regarding smart mobile phones (Sujata *et al.*, 2016).

Product Features; these are attributes that make up a mobile phone. Uddin et al. (2014) conducted a survey to reveal factors that could affect the buying behavior of Khulna (Bangladesh) city customers. The analysis revealed that physical attributes accounted for 30.99% of the total variance. The physical attributes included features such as Bluetooth, camera, colour and weight. The findings from the study conducted on South African university students revealed that the male students seemed to emphasize more on usability (ease of use, comfortable to hold) than the female students. Also, the female students emphasized more aesthetic values (look, colour, etc.) than the male students (North *et al.*, 2014). A study by Sata (2013) in Ethiopia showed that among seven chosen factors influencing the choice of mobile phones, three main factors appeared and among the leading factors were mobile features. The mobile phone feature was the second significant factor that linked with the consumers' decision to purchase mobile phones. "The mobile phone features included internet connection, Bluetooth, video, colour, FM, media player, design, touch

screen, storage capacity, size, available accessories, audio, and weight” (Sata, 2013: 109). The correlation and multiple regression results by Sata and Belete (2013) revealed that product features had a definite and meaningful relationship with the purchase decision of a mobile phone. The exploratory factor analysis results of a similar survey of Malaysian students revealed innovative product features as a significant factor influencing the choice of mobile phones. 16.84% of the total variance was explained by innovative product features. Hence, a dominant factor. The innovative features were; “built-in camera, larger memory size, multimedia, Bluetooth and infrared, speaker and video recording, screen colour, radio and MP3, design, and styling” (Yaakop & Mokhlis, 2012: 207). Karjaluoto et al. (2005) also highlighted that Finnish students acquired mobile phones because of new features such as MMS, size of the phone, colour display and ringtones were added. A study was conducted to examine the effect of product characteristics on mobile phone predilection among undergraduate students in Kenya. The results revealed attributes such as, “colour themes, visible brand name labels, mobile phone models, safe packaging, the look, and design of the phone were considered” (Malasi, 2012:11). Contrary to the study by Malasi (2012), a study by Shahzad and Sobia (2013) on private university students of Peshawar, the least influencing factor for mobile phone choice was innovative product features. The students were more influenced by the quality of the mobile phone device. Ashfaq and Samreen (2015) conducted research on factors leading to brand switching in cellular phones in Pakistan. The results indicated that among the factors that participants valued as important on choosing a mobile phone included mobile phone features.

After-sales service: this includes all services that complement the physical product (Kotler *et al.*, 2010). Post-sales services loaded on 5.8% of the total variance explained from the exploratory factor analysis results in the survey conducted on Malaysian students. The variables that loaded on post-sales services included guarantee/warranty and follow-up calls (Yaakop & Mokhlis, 2012). The descriptive results of a survey conducted on Hawassa (Ethiopia) consumers reported after sales services as having the highest mean score of 3.6 among the six variables measured. The multiple regression tests showed after sales service combined with other independent variables substantially influenced the consumers’ buying decision of mobile phone devices (Sata, 2013). In another study on Jordanian university students, warranty conditions, after sale service and phone warranty duration influenced mobile brand choice (Alshurideh *et al.*, 2015). In Pakistan, the urban consumers were least influenced by the after-sales services as a motivating factor in purchasing a

mobile device. The rural consumers, however, considered after-sales service as a third motivating factor (Saeed *et al.*, 2012). The study by Shahzad and Sobia (2013) on university students in Peshawar accepted the hypothesis that post-purchase services influence the youth's choice of mobile phones.

Promotions: promotions are an important aspect of the marketing which can help increase customer attraction, sales, and brand recognition (Belch, Belch, Kerr, Gayle & Powell, 2014). Promotions include all sales promotion, sales organisation, public relations, word of mouth and advertising (Garg, Singh & De, 2016). A study in Pakistan revealed that promotions of mobile phones were the second least motivating factor for urban consumers to purchase a mobile phone. However, it was a third motivating factor among seven other factors, for rural consumers of Pakistan (Saeed *et al.*, 2012). Promotions also appeared as a factor affecting the choice of mobile phones in the Indian market. Promotion and advertising were a second factor loading at 15.2% of the total variance from the factor analysis results. The variables loading on this factor included a jingle, advertising campaign, tagline, product placement, celebrity endorsement, and company logo (Dave & Brahmhatt, 2015). Promotion effectiveness was a weak factor on a survey in Peshawar. The results showed that promotions had a positive relationship to brand choice but a weak influence when arranged in order of importance (Shahzad & Sobia, 2013). In a survey by Uddin *et al.* (2014) in Khulna city, Bangladesh, the factor analysis extracted advertising as a seventh factor that explained 3.4% of total variance. It showed that customers also made their purchasing decision based on the advertisement.

Media reviews: in the recent years, consumers tend to spend a great deal of time on social media. Marketers use social media as a medium to influence consumers to purchase their products (Bolton, Parasuraman, Hoefnagels, Migchels, Kabadayi, Gruber, Komarova, Loureiro & Solnet, 2013). According to statistics in America, consumers in 2015 spent 5.6 more hours on social media than in 2008. The statistics also revealed there were 1800 million global users of social media in 2015 whereas there were only 400 million users in 2007. The Gallup statistics revealed that Millennials and Generation X are greatly influenced by social media when it comes to purchasing decisions. Social media less influence baby boomers and the Traditionalists. Consumers also revealed that they use social media for various reasons. A total of 94% of the consumers agreed to use social media to connect with family and friends. 29% of the consumers agreed to use social media to

follow trends, to seek information on products and look at product reviews. 20% of the consumers agreed to use social media to comment on hot topics and write a review on products. Overall, the results revealed that 5% of the consumers were greatly influenced by social media. 30% of the consumers were somewhat influenced by social media. 62% of the consumers were not influenced at all by social media and 3% of the consumers did not know (Gallup, 2015). Yaakop and Mokhlis (2012) results showed media reviews as among factors with least influence on the choice of mobile phones among Malaysian university students.

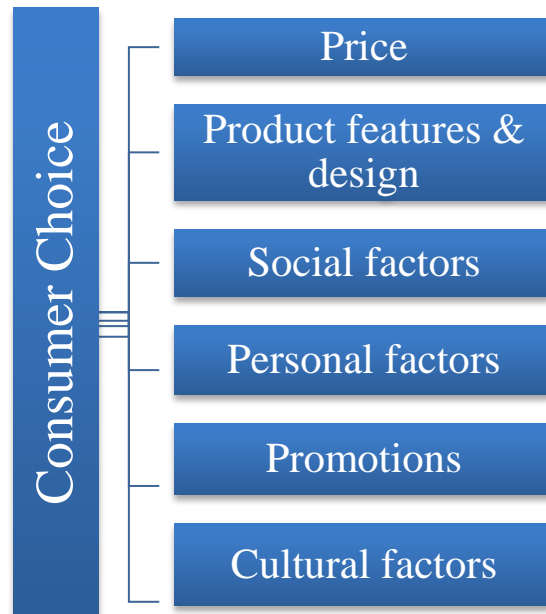
Distinctiveness: refers to the uniqueness of the mobile style and design. According to Han (2004), simplicity, luxuriousness, non-delicate, attractiveness and harmoniousness contribute to choice and satisfaction of a mobile phone. Consumers avoid the risk of investing in an expensive mobile phone and overspend due to the delicacy of the mobile phone. Thus, consumers rely on external influences such as media reviews to avoid such high degree of risk (Yaakop & Mokhlis, 2012). According to Saeed et al. (2012), urban users of Pakistan were driven by the uniqueness and the style of the mobile phone when making a purchase decision concerning mobile phones. The rural users, however, were price driven and hence, the style was the third least motivating factor when making a purchase decision concerning mobile phones. Consumers in the age group 18-30 years considered mobile phone physical appearance as important when purchasing a mobile phone while consumers who were 50 years and above were price driven (Singh & Goyal, 2009).

Personal recommendation: this includes an individual's decision to purchase a mobile phone without external influence. In order of importance, results from the Friedman's test of Malaysian university students showed personal recommendation as the second prioritized factor which influenced consumer choice. The reason behind the prioritization is that mobile phones are regarded as high-risk products. This is due to the effort invested in the search and the experience quality obtained. To cope with the risk, consumers resort to the personal recommendation as an approach to risk reduction. Personal recommendation is important because it generates a more aware and informed choice. Information about a particular mobile phone may reach a consumer through word of mouth. "Consumers can benefit from reduced perceived risk by reducing the likelihood that the purchase will be unsuccessful or by decreasing the severity of real loss experienced if the purchase is unsuccessful" (Yaakop & Mokhlis, 2012: 208).

Accessories: mobile accessories include a screen protector, charging adapter, earphones, extra battery. A survey was conducted to comprehend the difference in standing given to various factors by assorted age and gender groups. The sample was gathered from 240 respondents by using a convenience sampling method. The results revealed that consumers in the age group of 18-30 years considered the value-added features as one of the important factors when purchasing a mobile phone (Singh & Goyal, 2009). Maharaj and Parumasur (2011: 12777) conducted research on “customer perceptions of cellular phone services, attributes, and factors influencing selection/preference in the KwaZulu-Natal province”. The results indicated users of the ages 18 to 29 years placed a high value on accessories. Value-added features were the third most important factor in a survey conducted in Khulna city, Bangladesh. It explained 6.62% of total variance. Charging and operating facilities were considered when customers purchased mobile phones (Uddin *et al.*, 2014). An empirical study by Das (2012) in India showed that among the leading factors consumers consider was value-added features of the mobile phone. A descriptive analysis of factors affecting smartphone purchase among Indian youth revealed that financial factors influenced the choice of smartphones. It explained 5.21% of total variance. In a study by Sujata *et al.* (2016) on the Indian youth’s choice of mobile phones, free accessories was among the variables that made up the financial factor.

Model/version of the mobile phone: this is an improved prototype of the original make or builds (Incel, Kose & Ersoy, 2013). The latest model of mobile phones released by the manufacturers drives consumers nowadays. The consumers who purchase the newest version of products are known as early adopters (Sujata *et al.*, 2016). Some consumers purchase such models to maintain their status or position in their social groups (Jisana, 2014). Model of the phone at a lower price was one of the variables that loaded on the second factor that was pricing in the factor analysis results of Bangladesh customers. It affirms that the Bangladeshi customers consider the version of a mobile phone before purchasing a mobile phone (Uddin *et al.*, 2014). Maharaj and Parumasur (2011) conducted research on “customer perceptions of cellular phone services, attributes, and factors influencing selection or preference in KwaZulu-Natal province”. The results indicated users of the ages 18 to 40 years, single and self-employed placed high importance on latest technology.

In summary, based on the previous studies scrutinized, common factors affecting choice of consumers' mobile phones can be narrowed down as shown in the diagram below:



Source: Researcher's own compilation.

Figure 2.4: A summary of factors affecting consumer choice of mobile phones

This section has provided comprehensive coverage on the field of choice and consumer behaviour. Based on the extent of the literature examined, the common drivers of consumers' choices of mobile phones are illustrated in the above figure. Price is the dominant factor affecting the decision to buy mobile phones. Nevertheless, all factors have reasonable relationships with the decision to buy mobile phones. However, there lacks adequate examination of information from South African researchers relating to the core topic of consumer choice of mobile phones. Previous research in South Africa (North *et al.*, 2014; Maharaj & Paramasur, 2011) although examining the aforementioned choice factors in cellular phone purchases, but did so as a sub-focus of their studies and examined fewer factors affecting consumer choice of mobile phones. In contrast, this study takes a broader stance in examining a greater number of choice factors in cellular phone purchases, thus revealing a wider perspective. This study will also cross-reference the findings with the factors examined from previous studies and how they differ in the South African context in terms of importance.

2.3 CUSTOMER SATISFACTION

2.3.1 Definition of Customer Satisfaction

Customer satisfaction has been redefined and re-evaluated over the years by different researchers in previous studies. Satisfaction is perceived as a condition when pre-purchase and post-purchase expectations meet (Zeithaml, Bitner & Gremler, 2013). Zeithaml et al. (2013) quoted Richard Oliver's definition, which states "Satisfaction is the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfillment" (Zeithaml *et al.*, 2013: 80). Lin, et al. (2006) defined customer satisfaction as the feeling of delight or pleasure that is experienced when the service provided is relative to the expectation (Kumar & Raju, 2014). The summation of several elements of a product or service is regarded as customer satisfaction by Churchill and Suprenant in 1982 (Jung and Hong, 2010). Khayyat and Heshmati (2012) defined customer satisfaction as Tse et al. (1988) and Parasurama et al. (1988) explaining that, "satisfaction is the response to the evaluation of the perceived difference between prior expectations and actual performance, with expectations seen as predictions about what might occur in the future" (Jung & Hong, 2010: 862). In summation, customer satisfaction can be regarded as the summation of various attributes of quality products and services especially when the products and services exceed demand, need and expectations of customers (Jung & Hong, 2010).

2.3.2 Importance of measuring Customer Satisfaction

'If you cannot measure something, you do not understand it', Lord Kelvin (Sharmin, 2012: 18). In an increasingly competitive business world, it is vital that organisations measure customer satisfaction from the customers' viewpoint and not the organisation's. Misinterpretations and wrong specifications occur when organisations do not understand/confuse what the organization thinks customers want and what customers really want. The customer determines the criterion for which customer satisfaction is measured. The solution for organisations is to conduct market research, find out what customers' market needs are and concentrate on improving and meeting those needs (Mostaghel, 2006).

The measurement of customer satisfaction using whichever measurement program should be able to answer who, what, how, when, where and why to guarantee success (Cengiz, 2010). Various market research methods used to measure customer satisfaction include: "focus groups that study

customer satisfaction, customer survey methodologies, computer software and standardized packages for monitoring customer satisfaction” (Mostaghel, 2006: 30).

Business philosophy suggests that organisations should be customer oriented through measuring and evaluating customer satisfaction and further implementing continuous improvement (Sharmin, 2012). Customer satisfaction is equally a goal and a marketing tool for customer-centered businesses (Kotler *et al.*, 2010). Satisfied customers form the baseline of the excellent performance of businesses (Sharmin, 2012). Recently, customer satisfaction has increased organisations’ attention through the overhaul from transactional marketing to relationship marketing (Rahman, 2014).

Customers’ satisfaction is important because it has a positive influence on an organisations’ profitability. A statistical analysis on customer satisfaction by Global Strategies International (GSI) revealed that totally satisfied customers contributed to 2.6 times of company revenues as compared to somewhat satisfied customers. The results also showed that totally dissatisfied customers contributed to a decrease in revenue by 1.8 times (Singh, 2006).

Other than profitability, customer satisfaction has been proved to increase a company’s market share. A satisfied customer creates positive word-of-mouth, which is a powerful tool to increasing financial benefits to organisations (Mohsan, Nawaz, Khan, Shaukat & Aslam, 2011). Good service quality enhances the chance of repeat purchase and eventually ensures customer loyalty and retention (Singh, 2006). A customer is unlikely to switch between companies or competitors if the services provided/product(s) meets post-purchase expectations (Sharmin, 2012). This is to say that customer satisfaction provides comprehensive insight on customers’ pre-and post-purchase behaviour (Cengiz, 2010).

The goodwill of a company can increase over time if customers are satisfied. Positive goodwill is an asset to the company. Maintenance of good relationships with the customers and the public, in general, can increase the goodwill of business organisations (Adegbola, 2010).

Consequences of customer dissatisfaction are harsh to the organisations. Dissatisfied customers may decide to discontinue purchasing products and/or services from the organization. Goods may be returned and as a result, organisations are faced with stagnant inventory. Moreover, dissatisfied

customers spread negative word-of-mouth, which costs organisations more customers, reputation and eventually the decline in market share (Singh, 2006).

In general, customer satisfaction ensures a sustainable competitive advantage over organisations' competitors as compared to utility-focused organisations (Cengiz, 2010) and (Zeithaml *et al.*, 2013). Measuring satisfaction should be the core objectives of organisations/firms in the industry to build brand loyalty and building long-term relationships (Bayraktar, Tatoglu, Turkyilmaz, Delen & Zaim, 2012).

2.3.3 Customer Satisfaction Process

Judging customers' satisfaction depends on all experiences from obtaining the products, the purchase/sale process to the after-sales service (Mostaghel, 2006). Customers have different perceptions of expectations depending on the context. In theory, concerning satisfaction, customers will be satisfied if expectations will meet post-purchase outcome. The expectations are mainly based on past experiences (Nguyen, 2014). However, there are other factors both internal and external that affect the perception of satisfaction i.e. customer emotions (Bray, 2008).

Researchers who studied consumer choice mention that buyers' characteristics i.e. social, cultural, personal, and psychological factors influence their purchase decisions (Mostaghel, 2006). The buyer's/customer's decision-making process also influences a purchase decision. The Blackwell *et al.* (1995) model depicts classical stages of the decision-making process which are; "need recognition, search for information, pre-purchase alternative evaluation, purchase, consumption, and post-consumption evaluation (or post-purchase alternative re-evaluation) and divestment" (Bray, 2008: 2).

2.3.4 What Determines Customer Satisfaction

There are specific factors that affect customer satisfaction towards a product or a service (Jung and Hong, 2010). Zeithaml *et al.*, (2013: 79) identify some of these factors as "features of a product or service, perceptions of product and service quality and price and additional factors such as personal factors i.e. customer's emotional state and situational factors i.e. opinions of family members".

2.3.4.1 Product and Service Features

The customers' evaluation of product features or service features determines their satisfaction levels. Organisations commonly use focus groups in overall satisfaction evaluation to determine important attributes, features and perceptions (Zeithaml *et al.*, 2013). A survey in Bangladesh on

customer satisfaction in mobile phone services revealed that customers' satisfaction was influenced by the perceived value of the quality of service delivered by the mobile network operators (Uddin & Akhter, 2012). The uniqueness of a product or service features sets the product or service apart from its competitors. The product or service attributes are only indispensable if the customers consider the features as valuable and beneficial according to their needs. Customers purchase products and services to solve a problem or a need. It is imperative for organizations to recognize the benefits of their products and services to customers, update their products and services whenever a new need is desired by the customers (Kauffman Foundation, 2015).

2.3.4.2 Customer and Employee Emotions

Customers' emotions play a big part in post-purchase behavior (Han, 2005). Stable or pre-existing moods i.e. overall satisfaction in life affects the perceptions of customers' satisfaction towards products and services. A good mood or bad mood influences how a consumer reacts towards a particular product or service. Research carried out in retail and consulting organizations showed that, employees' emotions i.e. positive emotions e.g. happiness, pleasure, self-confidence, contentment, and negative emotions e.g. anger, regret, sorrow, affected customers' choice and buying behavior (Zeithaml *et al.*, 2013).

Employees' negative or positive attitude contribute to customers' emotional states during the purchase process which ultimately influences their satisfaction levels. The emotional experiences offered by employees determine whether customers will return. In a restaurant context in China, positive encounters between waiters and customers proved a positive emotional experience for the customers (Zeithaml *et al.*, 2013). Telecommunications service provider customers are often loyal to their providers based on the perceived quality of the services received overtime. Customers with high emotional bonds and relationships to brands tend to commit and invest more in the brand. Such customers also show likeliness of future purchase intentions and remain as loyal customers. (Martin, Hubbard, O'Neill & Palmer 2008).

2.3.4.3 Attributions for Services Success or Failure

Attributions are defined as the seeming sources of incidents. Attributions are known to influence levels of satisfaction either positively or negatively. The outcome of a service (i.e. greater or less than expected) makes customers to assess and find reasons, which influence their satisfaction and loyalty (Zeithaml *et al.*, 2013). A study by Iglesias (2009) considered three dimensions of the

attribution concept: locus of causality (internal, external, or situational), controllability and stability. In all these three dimensions, if the customer deems the company accountable for the cause of events, this could affect the customers' cognitive process, emotions, and behavioural pattern. A study by Nguyen (2014) on mobile telecommunications services in France showed that a sufficient level of satisfaction was attained by customers who confirmed on the good mobile network and technical quality of Bouygues Telecom mobile services. In the same, empathy, responsiveness and reliability showed negative levels of satisfaction. A customer is expected to assume the partial responsibility for outcomes of events before determining satisfaction but in most cases, customers deem the company liable (Zeithaml *et al.*, 2013).

2.3.4.4 Perceptions of Equity and Fairness

Customers consider fair and equal treatment as an attribute towards satisfaction. Customers tend to evaluate if the services received vary compared to fellow customers (Zeithaml *et al.*, 2013). Organisations should invest in social communications at work to improve, motivate and lift half-hearted employees (Dib & Al-Shallam, 2015). Fair and equal treatment to all customers constitutes satisfaction towards products and services. Fair treatment of employees can also influence how they treat organizational customers. Various empirical studies show that there is a definite and meaningful relationship between service fairness and customer satisfaction (Hassan, Hassan, Nawaz & Aksel 2013). Organisations treat customers depending on how they affect the organisation's profits. Even though fair treatment is an important aspect of customer satisfaction, Wangenheim and Mayser (2013) argue that some customers prefer to be treated differently from other customers. Therefore, organisations should not completely abstain from differential customer treatment but rather treat each individual customer as they prefer (Wangenheim & Mayser, 2013).

2.3.4.5 Other Customers, Family Members, and Co-workers

Other customers, family, and co-workers play an important role in influencing satisfaction besides customer emotions and product/service features. Their individual experiences and perceptions about a product or service may influence the satisfaction of other customers (Sharmin, 2012). Researchers study consumer buying behavior to understand their decision-making process. This creates a path in identifying how consumers attain their satisfaction. Customers decisions of where, what, how and when to buy contribute to their satisfaction (Zeithaml *et al.*, 2013).

Other factors that also affect customer satisfaction include product quality, service quality, personal factors, situational factors (Sharmin, 2012), perceived value, empathy (Heshmati & Khayyat, 2012), courteous and knowledgeable employees, quick service, billing timeliness and clarity, good value, friendly and helpful employees (Singh, 2006), credibility, reliability, and accessibility (Mostaghel, 2006).

2.3.5 Empirical Studies on Mobile Phone Satisfaction

Based on previous studies conducted on customer satisfaction, most focus has been directed to evaluating the satisfaction of services provided by mobile operators. Little focus has been put in evaluating the satisfaction of the mobile phone itself. Below are factors that contributed to satisfaction of mobile phones from some of the studies that researched on the satisfaction of cellular mobile phones:

Price fairness: Reasonable price is among the foremost influences of customer satisfaction. Customers are continuously concerned about the prices charged on products. Research conducted by Saeed et al. (2012) in Pakistan showed that consumers of mobile phones who lived in the rural areas are more price conscious than consumers who lived in the urban area. Uddin and Akhter (2012) conducted a survey on customer satisfaction in Bangladesh and results showed that the fair price of a mobile phone had a direct positive impact on customer satisfaction. Dib and Al-Msallam (2015) conducted a similar study in Damascus on undergraduate students of various universities and found that fairness of the price contributed to mobile phone satisfaction, which also enhanced the brand loyalty of the students. Cadet, Larribeau and Pénard (2012) conducted research in France and reported that price was a second positive attribute to mobile satisfaction after service quality. However, respondents were more likely to recommend the mobile phone dealers based on the price. Raju and Kumar (2014) conducted research in Karnataka and the results showed customers were more satisfied with the cost/price of the mobile phones because the customers felt they were fairly charged. Malaysian students were satisfied with their mobile device choice due to the relatively low cost they spent on purchasing the mobile phone (Mohklis & Yaakop, 2012). Firms gain a competitive advantage when their aim is cost cutting to achieve customer value (Uddin & Akhter, 2012).

Signal and transmission quality; the quality of a signal receiver built on a mobile phone may be poor or strong depending on the model of the mobile phone. This is among the factors that

influence satisfaction when it comes to mobile devices (Nguyen, 2014). A study by Heshmati and Khayyat (2012) to determine key factors that influence mobile phone satisfaction showed that signal quality is among important factors that customers expected to be satisfied with. In a study by Nguyen (2014) in France, the transmission, and signal qualities were important factors, which revealed a high score in the level of satisfaction of that dimension.

Memory size: the storage capacity of a mobile device matters to customers. Customers can easily store images, documents, music, and other things with large storage capacity. The functionality of the mobile phone increases with the size of the phone memory (Laukkanen, 2008). Customers are dissatisfied when the mobile devices are unable to store many things and were forced to purchase a separate memory card/SD card to suffice (Heshmati & Khayyat, 2012). Mohklis and Yaakop (2012) report on Malaysian students being more satisfied with the mobile phone if the memory capacity was large.

The size of the phone: the size of a mobile device varies from one customer to the next. Some prefer large size mobile devices and others prefer smaller or rather portable (fitting in the arm) mobile phones. Heshmati and Khayyat (2012) in their study in Kurdistan, satisfaction came about as well with the size of the mobile phone. In the study by Hong and Jung (2010), the size of the phone was also an influencing factor in mobile satisfaction. Uddin et al. (2014) conducted research in Bangladesh and size of a mobile phone was one of the factors that contributed to mobile choice and satisfaction.

Long-lasting Battery: Low battery life has impacted not only on satisfaction but also on brand loyalty (Chai, Ding & Xing, 2009). Customer expectations on battery life have evolved over time especially after the introduction of smartphones. A few years ago, a charged battery would last a week but currently, customers are forced to switch across mobile models and brands in search of a long-lasting battery. A smartphone user has a lower satisfaction score than a traditional handset user (J.D.Power & Associates, 2012). Some respondents from Heshmati and Khayyat (2012) study were satisfied with their phones because the mobile phones had long-lasting batteries. Maharaj and Parumasur (2011) conducted research in KwaZulu-Natal province on mobile phone users and satisfaction. The results showed most the respondents valued battery life landing it with the highest mean score compared to other features. Parimaladevi (2016) conducted research regarding customer satisfaction towards the Sony mobile phones in Erode City. The study revealed that

among factors that contributed to the satisfaction of use of Sony mobile phones was the long-lasting battery of the phones. Battery life had the highest weighted score of 511 ranking it as the top factor.

Ease of Operation: Lee (2007) conducted research on older adults on their experience with the use of mobile phones. The results disclosed that adults were traditional mobile users and used very few basic features of the mobile phone i.e. calling, texting and taking pictures. The results also showed that older women had more difficulty in operating the phone than the older men. The older women found the mobile phone were not easy to use nor to understand. Therefore, dissatisfied in the dimension of that attribute. Giovannini, Ferreira, Silva, and Ferreira (2015) conducted research on undergraduate students in Brazil. The results showed a positive effect on satisfaction when the mobile phone was simple to use in transactions involving mobile commerce. Respondents from Heshmati and Khayyat (2012) study were satisfied with their phones because the mobile phones were easy to operate.

Colour: Ling, Hwang and Salvendy (2006) conducted a survey in the America among college students on mobile satisfaction. The results showed that colour of the mobile phone had a higher score than other features that were being compared. Moreover, Caucasian female students had lower preference on colour than female Asian students. Maharaj and Parumasur (2011) conducted research in KwaZulu-Natal province on mobile phone users and satisfaction. 41.5% of the respondents marked colour as a very important attribute of a mobile phone. Malasi's (2012) study in Kenya on undergraduate students revealed that 29% of the students purchased their mobile phones because of the colour. In the study by Heshmati and Khayyat (2012), colour is also a more demanded feature by mobile phone users.

Camera: mobile phones are designed with in-built cameras with different resolutions that enable customers to scan barcodes, documents, take pictures, videos, and capture moments. These days, mobile phones are built in with front and back cameras (Zhao & Balagué, 2015). Research by Ling et al. (2006) in America showed camera as one of the top five features that contributed to the overall satisfaction of college students. The study also showed that men preferred and adopted to higher resolution cameras than women even though women especially teenagers are known to take more pictures than the male population. In a study by Ashfaq and Samreen (2015) in Karachi, Pakistan 76.4% of the respondents considered a camera with high resolution as an important

feature of a mobile phone that contributes to satisfaction and selected strongly agree. In the research study by Maharaj and Parumasur (2011) showed that students were the most users of the camera feature and therefore, their rating of the level of importance of this mobile feature was high. The results also showed that the age group with the highest mean score and level of importance of the camera feature was 18-29 and 56-65 as the least users of the feature. Moreover, results showed single people used the camera feature more than the married, divorced and widowed people did. Among three ethnic groups, the Zulu's rating of the level of importance of the camera was higher than the Afrikaans and English.

Stylish: Style involves the appearance of the mobile phone. It includes the texture feel, colour, width, weight, and other visible features (Saeed *et al.*, 2012). Kotler, Keller, Brady, Goodman, and Hansen (2009) noted that organisations could add customer value by producing and/or selling unique product designs and styles. The style is eye-catching and may improve sales of a product. Saeed *et al.* (2012) conducted research in Pakistan showed that consumers of mobile phones in urban areas are more focused on the style of the mobile phone and brand whereas the rural consumers were more concerned about the price.

Audio capacity: audio capacity is the ability of the mobile device to produce quality sound. Mobile devices are equipped with inbuilt speakers, which vary from brands to brands in terms of loudness and output capability. Vijayakumar (2013) conducted research in Coimbatore city on customer satisfaction towards a selected model of HTC mobile phones. Vijayakumar (2013) discovered that most students, 52.02% of the respondents, confirmed that the third best strength of the HTC mobile phones is the sound capacity. Moreover, 23.3% of the respondents agreed that sound capacity was a major factor that influenced the purchase of the HTC mobile phone. Due to the respondents' satisfaction with the HTC mobile, 56.6% agreed they would recommend the brand to other people. Parimaladevi (2016) conducted research regarding customer satisfaction towards Sony mobile phones in Erode City. Respondents were dissatisfied with the sound capacity of the Sony mobile phones and recommended that the company pay more attention to the sound effect among other factors.

Portability: recent studies show that consumers are attracted to portable size and lightweight mobile phones (Zhao & Balagué, 2015). Han *et al.* (2004) conducted a survey on satisfaction levels of consumers on 50 different mobile phones concerning 65 different design features. The study

revealed portability of a mobile phone as among a factor that contributed to the total satisfaction of the mobile phone. The respondents were more satisfied if the mobile phone was not heavy and too big to carry in a pocket (Mokhlis & Yaakop, 2012). A study conducted on Malaysian university students showed that portable aspects of the mobile were among the factors obtained from the exploratory factor analysis (EFA) method. The total variability of the items was represented by 6.1% (Mokhlis & Yaakop, 2012).

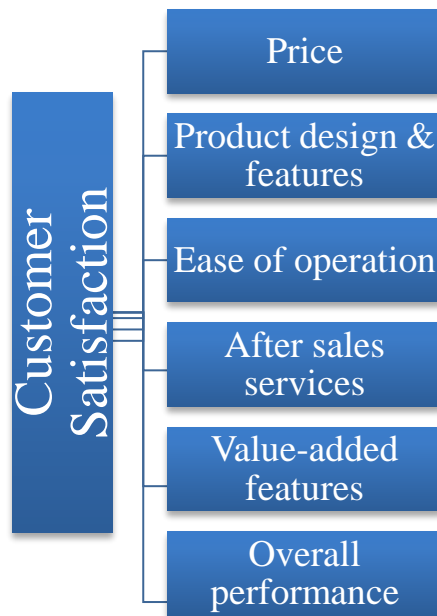
Multi-media: Multimedia is when a mobile phone can perform the basic functions or default functions of a mobile phone (i.e. make calls and send SMS messages) with advanced features such as high-quality camera, display and high-quality sound (Sarmiento & Lopez, 2012). Most customers now prefer multi-media phones or smartphones to traditional mobile phones. Multi-media are an important feature considered when making a mobile phone purchase (Maharaj & Parumasur, 2011). Heshmati and Khayyat (2012) conducted a survey in Iraq to reveal the determinants of mobile phone customer satisfaction in the Kurdistan region. The results revealed that 215 respondents (14.7%) were in favour of multi-media feature contributing to their satisfaction. Among five features tested, multi-media ranked as a third most favoured feature in contribution to satisfaction levels.

Screen display: Mobile phones may have large or small screen displays depending on the size of the phone. The recent trend involves manufacturers of different mobile phone brands modernizing screen displays and producing mobile phones with large screens (Yu & Conway, 2012). Soomro and Ghumro (2013) conducted a study on consumer behavior in the mobile market in Sindh on students from various universities. The results showed that most users favoured mobile phones with the large screen display. The large screen display had the highest mean score of 3.67 amongst the eight factors. In another study by Maharaj and Parumasur (2011), the screen display of the mobile phone, in general, scored a mean of 3.67. However, it was the seventh important factor in the order of importance amongst nine factors.

Overall performance: the perceived general performance of the mobile phone affects satisfaction levels of customers (Khayyat & Heshmati, 2012). The performance entails all functions from basic functions such as calling and messaging, direct menu, to complex performance such as virus and shock resistant and a durable charging adapter (Miyashita, 2012). According to the study by Khayyat and Heshmati (2012), a direct relationship exists between overall performance and

satisfaction. If the mobile phone is complex, it means additional effort is needed by the customer to understand and operate the mobile phone, therefore, causing a decrease in satisfaction. Hong and Jung (2010) results on factors affecting satisfaction before and after purchase in the telecommunication market showed that there was a high significant level of 0.737 on the influence of expected satisfaction before the purchase on actual satisfaction after the purchase of a mobile phone. This means that customers plan to buy a mobile phone with high expectations of good performance thus increasing their actual satisfaction level after purchase.

In summary, based on the previous studies examined, common factors affecting satisfaction of consumers' mobile phones can be narrowed down as shown in the diagram below:



Source: Researcher's own compilation.

Figure 2.5: A summary of factors affecting customer satisfaction of mobile phones

This section has provided comprehensive coverage on the field of customer satisfaction. Based on the extent of the literature examined, the main drivers of customers' satisfaction of mobile phones are illustrated in Figure 2.5 above. Price dominates as a major influential factor. However, there lacks adequate examination of information from South African research relating to the core topic of customer satisfaction of mobile phones. The previous research (North *et al.*, 2014; Maharaj & Paramasur, 2011) conducted in South Africa, as alluded to in the earlier discussion, focused on factors affecting customer satisfaction for cellular phones as a sub-focus of their studies.

Comparatively, this research adopts a broader focus and aims to reveal a wider perspective on the factors affecting customer satisfaction for cellular phones. This study will also cross-reference the findings with the factors examined from previous studies and how they differ in the South African context in terms of significance.

2.4 IMPORTANT FEATURES PERTAINING TO MOBILE PHONES

This section will provide a breakdown of features that consumers search for during their purchase of mobile phones and features consumers suggested for improvement. “Consumer reasons regarding mobile phone purchase are something one could assess as general knowledge, there is inadequate information about the buying decision-making process in relation to new mobile phone versions with altered features (i.e. smartphones) permitting users to connect in new techniques” (Karjaluo *et al.*, 2005: 79). “The tangible and intangible aspects of a product are equally important in selecting a product or brand. It was discovered that the more positive aspects to be involved with a brand the more devoted the customers are” (Malasi, 2012: 12).

The increased variety of mobile phone brands has created a challenge to the mobile users to make superb choices on which mobile phones to purchase. The selection of mobile phones requires customers to make trade-offs between the price and the features desired. It requires one to understand the role of the features and the capabilities of the mobile phone version (NUIT, 2011). In a study in Finland, some of the Finnish participants were unaware of some of the properties their mobile phones carried. One out of ten participants were aware of what the General Packet Radio Service (GPRS) was and its functionality (Karjaluo *et al.*, 2005).

The following are basic features that Northwestern University of Technology (NUIT) (2011) suggested that consumers should search for on a mobile phone. Namely:

Accessories: Manufacturers provide several add-ons that make mobile phones more user-friendly. For example, hands-free attributes such as; headphones, spare headphone buds, wireless Bluetooth gadgets, additional battery, and portable charging adapters.

Battery Type: “NiMH (nickel-metal hydride) and Li-ion (lithium ion) are the two main kinds of mobile phone batteries. Li-ion lasts longer and is lightweight, but costlier. Mobile phones consume more battery during calls than when switched on but not in use” (NUIT, 2011:1). It is, therefore, important for the buyer to know which battery is more appropriate.

Bluetooth: “this is the wireless communications technology that links compatible gadgets such as mobile phones, computers, PDAs – Personal Digital Assistant and other gadgets within limited ranges. To ensure compatibility with current devices, consumers should search for Bluetooth version 2.0” (NUIT, 2011:1).

Caller ID: “is a feature that shows the name and/or number of the entity calling. Nearly all digital mobile phones comprise of this ability. While usually only the number is received, most mobile phones will show the entity’s name, if the digits match an entry in the mobile phone's built-in contacts” (NUIT, 2011:1).

Camera: a digital camera permits the capture of digital pictures and the wireless transfer of pictures. Often, additional costs are charged to transfer the pictures. The more the camera pixels, the higher the price of the mobile phone.

Display: today, prices of mobile phones grow along with display sizes. However, wireless internet users nowadays require large screen displays. Mobile phone users demanding wide-range wireless web usage are advised to purchase a smartphone, PDA hybrid, which frequently have in-built QWERTY keyboards and bigger screens. Much preference should be given to color screens for viewing pictures or internet surfing. Mobile phones with such features are more expensive, utilize more battery life and require large memory.

GPS: also known as Global Positioning System. Selected mobile phones have GPS functionality. This feature is useful especially for mobile phone users who travel frequently.

International Support: this is a feature that helps a user use the mobile phone internationally. Users may want to examine an international mobile phone, compatible with the relevant frequencies i.e. “GSM - Global System for Mobile Communications or CDMA - Code Division Multiple Access most frequently used in Europe, Asia, and North America. Mobile phone users needing international access should research which networks are used in specific areas as GSM and CDMA are not compatible” (NUIT, 2011:1).

Multimedia: this feature allows for the downloading and transmission of images, videos, and songs. This feature is limited to some mobile devices. “The usage of multimedia functionality may require the user to purchase extra storage space - an external memory card, which is inserted under the phone battery or on the sides of the mobile phone” (NUIT, 2011:1).

Organizer Applications: this is a feature that helps a mobile user organize applications and other activities. Organizer applications include calendaring, to-do-list, reminders, and others. Most mobile phones have these features.

SIM Card: this is a smart card used in a mobile phone. It is aimed at bearing an identification number exclusive to the user, storing personal data and restricting mobile phone function if removed. Depending on where the user makes the purchase, some mobile phones come with a SIM card.

Smartphone (Palm or Pocket PC): these are mobile devices that contain inbuilt features such as internet browsing, network features, PDA features, advanced operating system that can run and download applications. Smartphones are more expensive than other standard cellular phones i.e. 3G (third generation) mobile phones.

Speakerphone: “this feature enables users to make wireless and hands-free calls. Users who want to make hands free can purchase mobile phones with built-in speakerphone capacity” (NUIT, 2011:1).

Text Messaging: text messaging enables short text messages to be sent and received on the mobile phone device (NUIT, 2011).

Video Recording: many mobile phones can take digital pictures, the phones also have exclusive video recording capabilities (NUIT, 2011).

Voice Dialing: “this feature lets users speak a name to dial a number instead of manually entering a number or selecting the number from the contacts. This feature is limited to the number of voice dials users can make” (NUIT, 2011:1).

Voice Mail: “this is a feature that supports audio messages from other mobile users. Users can leave one another audio messages through execution of the correct command. This standard feature comes with all currently manufactured mobile phones” (NUIT, 2011:1).

Weight: some mobile phones are lighter than others are. “Smartphones, merging PDA, and phone features, are heavier than the standard mobile phones” (NUIT, 2011:1). Smaller mobile phones are not often suitable i.e. web browsing on small sized mobile screen is not always convenient.

2.4.1 Important Features Consumers Seek on Mobile Phones

Previous researchers have conducted surveys to reveal features that consumers consider seek when purchasing mobile phones. The following is evidence of empirical results pointing out features consumers selected when purchasing mobile phones:

The size of the mobile phone: the mobile phone size may be large or small, depending on the brand and version of the mobile phone. 16% of participants in a study in Nottingham considered the size of the mobile phone before purchasing (Mack & Sharples, 2009). The size of the phone had some significance in the study conducted on students in Finland. Although many students had altered their mobile phones to get smaller models, some students emphasized that very small mobile phones were not preferred. Students felt that the phone should be small and able to fit into a pocket but still permitting moderately appropriate use (Karjaluoto *et al.*, 2005). In a study by Ling *et al.* (2006), the researchers examined 1,006 college students in the USA. The aim of the study was to pinpoint their preferred design features and examine their overall mobile phone satisfaction. Results from the survey revealed that students' satisfaction was significantly influenced by three factors of which size of the mobile phone was the second influencing factor.

Screen size/display: in a study by Liu (2002) on Asian mobile industry, the results showed that mobile phones with larger screen displays were more preferred by customers when it came to brand selection (Khayyat & Heshmati, 2012). The results by Hassan (2013) described that a greater number of participants preferred the acquisition of mobile phones with large screens. Contrary to these results, the study in Finland showed that students in Finland preferred small screen size mobile phones. Small size screen was one of the variables that loaded on the design factor. The students also admitted to switching mobile phone brands due to innovative features such as advanced screen colour (Karjaluoto *et al.*, 2005). Similarly, screen colour display was also an important feature among Malaysian students and American participants (Yaakop & Mokhlis, 2012) and (Ling *et al.*, 2006). A research in KwaZulu-Natal province was aimed at revealing "customer perceptions of cellular phone services, attributes, and factors influencing selection/preference" (Maharaj & Parumasur, 2011). The results indicated users of the ages 18 to 29 years placed high importance on the size of the screen.

Camera: A critical study in Pune city on consumer's preferences concerning selected mobile devices revealed that camera was among the most important features consumers looked for. The

camera had an overall average score of 24%. 6% of the respondents between the ages of 35-45 were mostly driven to purchase a mobile phone due to the quality of the camera (Anbhule, 2013). Among innovative features pointed out by Malaysian university students to influence the purchase of a mobile phone was an inbuilt camera (Yaakop & Mokhlis, 2012). The camera feature was a second important feature the American respondents affirmed as a feature considered before mobile phone purchase. The camera feature had a mean score of 5.3 (Ling *et al.*, 2006). The built-in camera was among the variables loading on the multi-media factor in the exploratory factor analysis of a Finnish survey (Karjaluoto *et al.*, 2005). Results from Malviya, Singh and Singh (2013) showed a camera with high-resolution feature also acted as a differentiation factor in brand preferences upon searching for a smartphone. The results by Hassan *et al.* (2013) described that a greater number of participants preferred the purchase of mobile phones with a quality camera.

Memory size: larger memory size was among factors loading on basic and brand properties of the exploratory factor analysis results (Karjaluoto *et al.*, 2005). In a study by Liu (2002) on Asian mobile industry, the results showed that features that determine brand choice included mobile phones with larger memory capacity were more preferred by customers (Khayyat & Heshmati, 2012). Among innovative features pointed out by Malaysian university students to influence the purchase of a mobile phone was larger memory capacity (Yaakop & Mokhlis, 2012). Also, among physical characteristics pointed out by Istanbul participants to influence the purchase of a mobile phone was larger memory size. Mobile phones with small memory size were least preferred especially by working class (Işıklar & Büyüközkan, 2007). Storage space was also among important features that contribute to the purchase decision of the smartphones in Indore, India (Malviya *et al.*, 2013).

Hardware and software interfaces: this feature enables users to exchange digital information. Han *et al.* (2004) conducted a survey of 50 various mobile phones regarding 65 design features. Results showed that a number of design features were considered before the purchase of a mobile phone. Among the features was the interface attribute (Yaakop & Mokhlis, 2012). In a survey of Indore participants, the results showed that features that determine purchase decision of smartphones included mobile phones with less complex operating system, latest interfaces with multimode and multi-band support, were more preferred by customers (Malviya *et al.*, 2013).

Waterproof effect: this feature allows for the functionality of the mobile phone even when in contact with water. Manufacturers of mobile phones have nowadays been incorporating this feature in the newest models of mobile phones. Thus, mobile phones with this feature are costly than mobile phones without this feature (Sujata *et al.*, 2016). Among physical characteristics pointed out by Istanbul participants to influence the purchase of a mobile phone was a water-resistant phone (Işıklar & Büyüközkan, 2007).

Battery power: results from Malviya et al. (2013) showed a mobile phone with a long-lasting battery also acted as differentiation feature in brand preferences upon searching for a smartphone. Participants from Kurdish region confirmed to be satisfied with the choices of their mobile phone if their batteries lasted long. 14% of the participants pointed out battery feature as among important features that participants looked for when making mobile phone searches (Khayyat & Heshmati, 2012).

Colour: among the features that determined satisfaction of mobile phones in the Kurdistan region was the colour of the mobile phone. 34% of the participants pointed out colour as an important feature when purchasing a mobile phone (Khayyat & Heshmati, 2012). Among physical characteristics pointed out by Istanbul participants to influence the purchase of a mobile phone was the colour of the mobile phone (Işıklar & Büyüközkan, 2007). Maharaj and Parumasur (2011: 12777) conducted research on “customer perceptions of cellular phone services, attributes, and factors influencing selection/preference in KwaZulu-Natal province”. The results also indicated users of the ages 18 to 29 years placed high importance on colour.

Sound capacity: An important study in Pune city regarding consumer preferences of selected mobile phones revealed that sound was among the most important features consumers looked for. The sound had an overall average score of 30%. 6% of the respondents under the age of 15 and 6% of the respondents over the age of 55 were mostly driven to purchase a mobile phone with good audio quality (Anbhule, 2013). Participants who used were involved in business preferred to purchase mobile phones with high-quality speakerphone or hands-free functionality (Khayyat & Heshmati, 2012). The audio recording was among the variables loading on the innovative features in the exploratory factor analysis of the Malaysian university student survey (Yaakop & Mokhlis, 2012). An investigation on satisfaction of advanced mobile phone features by various mobile

phone users revealed voice-activated dialing was an important feature sought by the American participants. It had a mean score of 4.8 (Ling *et al.*, 2006).

QWERTY keyboard: is the known standard typing keyboard design. It may be tangible or intangible (touch screen) based on the make of the mobile phone. In a study of consumer preferences regarding selected mobile handsets in Pune city, results revealed that touch screen QWERTY keyboard was among the important features consumers looked for. Touch screen had an overall average score of 18%. 6% of the respondents between the ages of 26-35 were motivated to purchase a mobile phone due to the touch screen feature (Anbhule, 2013). Similarly, results from Malviya *et al.* (2013) showed a mobile phone with touch screen also acted as differentiation feature in brand preferences upon searching for smartphones.

Weight: this is how heavy or light a mobile phone is. Han *et al.* (2004) carried out a survey regarding 50 various mobile phones with 65 different design features. Results showed that a number of design features were considered before the purchase of a mobile phone. Among the features was the weight of the mobile phone (Yaakop & Mokhlis, 2012). 8% of participants in a study in Nottingham considered the weight of the mobile phone before purchasing (Mack & Sharples, 2009). Among physical characteristics pointed out by Istanbul participants to influence the purchase of a mobile phone was the weight of the mobile phone (Işıklar & Büyüközkan, 2007). Maharaj and Parumasur (2011: 12777) conducted research on “customer perceptions of cellular phone services, attributes, and factors influencing selection/preference in KwaZulu-Natal province”. The results also indicated users of the ages 18 to 29 years placed high importance on weight.

Multi-card hybrid phone: this is a feature that permits the usage of more than one SIM card at the same time. In a study of consumer preferences regarding selected mobile handsets in Pune city, results revealed that dual sim was the least important feature consumers looked for. Dual sim had an overall average score of 10%. 4% of the respondents between the ages of 36-45 were motivated to purchase a mobile phone with the Multi-card feature. 2% of the respondents under the age of 15, 2% of the respondents between the ages of 16-25 and 2% of the respondents between the ages of 45-55, were driven to purchase a mobile phone with a dual sim. Respondents in ages 26-35 and 55years and above were not motivated by dual sim mobile phones (Anbhule, 2013).

Bluetooth: in a study by Ling et al. (2006), the researchers examined 1,006 college students in the USA. The aim of the study was to identify the design features preferred and overall satisfaction of their mobile phones. The study revealed that students' satisfaction was moderately influenced by purchasing a mobile phone with wireless connectivity capabilities i.e. Bluetooth and infrared. Wireless connectivity had a mean score of 5.0. Bluetooth and infrared were among the variables loading on the main factor, innovative features in the exploratory factor analysis of the Malaysian university student survey (Yaakop & Mokhlis, 2012).

Web browsing: the internet browsing feature was the least important feature the American respondents affirmed as a feature considered before mobile phone purchase. The internet browsing feature had a mean score of 4.6 (Ling *et al.*, 2006). Web browsing was found to have some importance in the study conducted on students in Finland. It among the variables mainly loading on the innovative features in the exploratory factor analysis results of Finnish students (Karjaluoto *et al.*, 2005).

Styling and design: physical appearance i.e. texture, thickness, delicacy, simplicity was among the variables loading on the design features in the exploratory factor analysis results of a Finnish survey (Karjaluoto *et al.*, 2005). Similarly, Kumar and Chaubey (2015) revealed the features that most influential on the purchase of mobile phones include style functions. Malasi (2012: 10) also studied "the influence of product features on mobile phone preference among undergraduate university students in Kenya". The study indicated that varying product features influenced the undergraduate students' choices on mobile phones. Among the features were the look and design of the mobile phone. Das (2012: 68) conducted "an empirical research based on survey method on factors influencing the buying behavior of youth consumers towards mobile handsets in coastal districts of Odisha located in India". The results revealed that young consumers aged 26-30, especially females are influenced to purchase mobile phones with smart appearance. Maharaj and Parumasur (2011: 12777) conducted research "on customer perceptions of cellular phone services, attributes, and factors influencing selection/preference in KwaZulu-Natal province". The results indicated users of the ages 18 to 29 years also placed high importance on appearance. Ashfaq and Samreen (2015) conducted research on factors leading to brand switching in cellular phones in Pakistan. The results showed that among the features that participants valued as important on choosing a mobile phone include appearance.

Technology: Saif, Razzaq, Amad and Gul (2012: 16) examined “the factors affecting consumers’ choice of mobile phone selection in Pakistan. The results specified that consumer’s rated new technology features such as secure to viruses, sensors, wireless portable chargers as the most significant feature amongst all and it was also a motivational factor that influenced consumers to purchase a new handset”. Maharaj and Parumasur (2011:12777) conducted research on “customer perceptions of cellular phone services, attributes, and factors influencing selection/preference in KwaZulu-Natal province”. The results indicated users of the ages 18 to 29 years placed high importance on accessories. Kurdish respondents were requested to reveal the likings of the various features of their mobile phones. Results indicated that 173 (11.8%) respondents valued the technology factor as an important attribute on their mobile phones (Khayyat & Heshmati, 2012).

2.4.2 Mobile Phone Features Suggested for Improvement

Product and brand characteristics are significantly imperative to consumers when making a purchase decision. Product features are a competitive tool for differentiating one brand’s product from competitor’s brand products. Furthermore, the first manufacturer to produce a needed and valued new feature is one of the most efficient techniques to increase competition among brands thus improving consumer decision-making process. Recently, mobile technological innovations have proved to produce features that lead either to consumer amazement or to total disappointment (Malasi, 2012). It is vital for mobile phone companies to pilot frequent surveys to identify the most needed and valued features and select which features to add to the next mobile phone version. By determining these features manufacturers can save costs and match the currents trends together with the consumer needs (Sata, 2013).

Paralimadevi (2016) conducted research on customers’ satisfaction towards Sony mobile phone in Erode city. The survey involved 150 respondents. The results revealed that the Sony users needed to see some features on the phone improved. The respondents suggested that new innovative models should be sold at an affordable price. In addition, Sony should improve the quality of the mobile phone. The versions offered by Sony were limited hence there should be the availability of various versions/models. Furthermore, sound, quality of the pictures, memory size should be given more attention.

The study by Sujata et al. (2016: 6) suggested that “hardware features of the mobile phones such as OS version, battery, RAM, memory card slot, interfaces should be provided. Features such as

good quality camera, screen size, screen resolution, hybrid sim card and portability should be advanced to increase usability”. Furthermore, mobile applications should be secure, compatible with phones and should adapt to change easily.

Gandhimathi and Parameshwari (2015: 602) conducted a study on “customers’ satisfaction towards Micromax mobile phone with special reference in Coimbatore city”. The survey involved 120 respondents. Users of Micromax mobile suggested that the battery back-up should be increased and the aftersales services should be improved.

Sathya and Varunapriya (2015) conducted a similar study in Coimbatore city (India) on customers’ preference and satisfaction towards android mobiles. The survey also involved 120 respondents. Results from this study matched the study conducted by Gandhimathi and Parameshwari (2015). The users of android mobile phones suggested improvement on post-purchase services and battery back-up. The users also recommended that mobile companies should concentrate on customers’ feedback in order to meet their needs and wants.

Parui (2015) conducted a study of consumer and retailer perception towards Samsung android mobiles. The study was limited to 50 participants from three different locations. The users of Samsung mobile phones were mostly satisfied but had the following suggestions; Samsung mobile phones were mostly satisfied but had the following suggestions; Samsung should improve the lifespan of its products, there should be additional variety of models within the price range of 5000-10000 rupees, Samsung should have more variety of dual sim card mobile phones, improve camera quality and battery life quality, introduce 4G connectivity, dust and waterproof protection should be provided. Moreover, production of 5-6 inch smartphones should be increased, provide 16 or 32GB of internal memory and 64 or 128GB of expandable storage on their smartphones, provide faster upgrade system than its competitors, increase product warranty period, and provide qual crome processor to increase performance of the mobile phone. Furthermore, manufacture more innovative and attractive models, produce quality mobile phones at low affordable prices and make more variety models/versions of Samsung compared to its competitors. Overall, Samsung should possess more features than the competitors (Parui, 2015).

Christinal and Vinoutha (2014: 55) conducted research study on “customer satisfaction of Nokia mobile in Tiruchirappalli district, Tamilnadu”. Data was collected from 50 mobile phone users.

The users suggested that improvement should be focused on value-added features and packaging of the mobile phone. Nokia should include more free gifts and samples.

Vijayakumar (2013: 1) conducted a study on “customer satisfaction towards HTC Mobile phone in Coimbatore city”. The survey involved 150 respondents. The results revealed that the HTC users suggested several issues be improved on the mobile phone. The respondents suggested that HTC did not have adequate features and hence, additional features should be added. The cupcake android version and HTC EVO 4G needed additional features. Moreover, sound quality, picture quality, and storage features needed more improvement.

Dziwornu (2013: 151) conducted research on “factors affecting mobile phone purchase in the greater Accra region of Ghana”. Data was collected from 200 mobile phone users. Most of the respondents surveyed used Nokia and Samsung mobile phones. The mobile phone users suggested that modern phones sold should have technological features that are durable and of high quality. In addition, batteries produced should last longer.

Lee (2007: 1) conducted research on “older adults’ user experiences with mobile phones: identification of user clusters and user requirements”. The results on improvement were based on the study by Craik and Salthouse, (2000); Fisk et al. (2004). Improvements for the elderly group included; Advancement the tangible QWERTY keyboard – more space should be created between buttons, button sizes and fonts should be increased and the background lighting on the buttons brightened. “The display on the screen should be improved from screen size, screen resolution, font, screen contrast, brightness, and screen backlight period” (Lee, 2007: 81). The mobile phone should be created to accommodate the elderly with hearing impairment thus advance speaker intensity and vibration strength. Decrease technological jargons and unnecessary complexity.

Ling et al. (2006) conducted a study on diversified users’ satisfaction with advanced mobile phone features on American college students. The respondents suggested improvement on camera - the camera should produce high-resolution images, colour screens – should show and support true colour display, voice-dialing feature – high voice recognition should be improved to increase ease in the dialing function, web-browsing – site display, presentation, and structure need regular improvement and security feature – consumer information should be protected and all loopholes should be fixed.

Consumers attracted to new technologies will shift from brand to brand in search of better technology. It is important for manufacturers to regularly improve the quality of their brands by constantly advancing features and applications to match the technological trends consumers' needs (Sata, 2013). It is also suggested that mobile companies focus more on producing quality and inexpensive mobile phones by adopting cost reduction measures (Kumar & Chaubey, 2015).

In summary, the literature examined shows camera, battery life and size of the phone as the overall important features to younger generation in universities as compared to the older generations. The features examined for future improvement included memory, sound and picture/image quality. However, in South Africa, according to Maharaj and Paramasur (2011), emphasis was on the size of the mobile phone, styling and design and technology of the mobile phone. Therefore, it would seem, from the factors discussed in the extant literature, that in different studies, different factors pertaining to mobile phone features were revealed. This could suggest that customer tastes and preferences differ in the choice of mobile phone features. This study will cross-reference the findings with the factors examined from previous studies and how they differ in importance in the University of KwaZulu-Natal, Pietermaritzburg campus context.

2.5 THEORETICAL FRAMEWORK

2.5.1 Background of the Theory

The Engel-Blackwell-Miniard Model initially known as the Consumer Decision Model was established by Engel, Kollat and Blackwell in 1968. "The Engel-Blackwell-Miniard Model is a comprehensive model that shows the components of decision-making, the relationship, and the interaction among the variables" (Blackwell, Miniard & Engel 2006: 77). The distinguishing parts that make up the model are; "input, information processing, decision process, decision process variables and external influences" (Blackwell *et al.*, 2006: 81). This theory is similar to the Theory of Buyer Behavior of 1969 but differs in presentation structure and relationship between variables. The model has continued to improve since its first development. The theory depicts a seven-step classical problem-solving pattern: "need recognition, search, pre-purchase evaluation, purchase, consumption and post-consumption evaluation and divestment" (Bray, 2008: 15).

The theory explains that stimuli and external factors affect the consumer's decision. It describes the different individual differences between consumers and environmental influences that affect consumers. The theory explains that a consumer first receives stimuli and processes the stimuli in

combination with past experiences. Secondly, external factors such as social class, family, and internal factors: attitude and personality influence consumers' decisions. The model further explains that a consumer has a desirable alternative to the current state (need recognition); therefore, search for information commences (Bray, 2008).

How consumers make choices captured the interests of a number of economists. "The Engel-Kollat -Blackwell model is a conscious problem solving and learning model of consumer behaviour. The model provides a general view of the consumer behaviour. This model has a good explanation of active information seeking and evaluation processes of consumers" (Dimitri, 2015: 19). Mostly based on Maslow's model, other several models have been shaped to envision the decision-making process (Hayde, 2011). According to Engel-Blackwell-Miniard model, customer decision-making process involves a need satisfying behavior and a broad array of inspiring and persuading aspects. The components of this model are explained in detail as follows (Blackwell *et al.*, 2006):

i. Input Information

The input process includes all types of stimuli i.e. advertisements that the consumers encounter in their daily routines.

ii. Information Process

The processing of information encompasses "the consumer's selective exposure, attention, comprehension, acceptance, and retention of stimuli" (Blackwell *et al.*, 2006: 88-89).

Exposure. This is the first step of the information process where the consumer is exposed to information relating to a product or brand, which causes an activation of senses. The activation of senses drives the consumer to begin the processing the stimuli. Information acquired may or may not be stored for processing (Blackwell *et al.*, 2006).

Attention. This is the second step of the information processing. If the consumer regards the information acquired relevant, the consumer then decides to focus on matters regarding the product or brand and therefore, exercise selective attention (Blackwell *et al.*, 2006).

Comprehension. This is the third step of the information processing. In this stage, the consumer interprets and analyses the information acquired against several categories and stored in the consumer's memory (Blackwell *et al.*, 2006).

Acceptance. This is the third step of the information processing. This step regards that if the consumer did not discard or reject the stimuli, the consumer accepts the results previously comprehended. To some extent, the acceptance of the stimuli alters the consumer's beliefs and attitudes (Blackwell *et al.*, 2006).

Retention. This is the final step of the information processing. The consumer then retains the information accepted and transfers the input to long-term memory (Blackwell *et al.*, 2006).

iii. Decision Process

The decision process comprises of “need recognition, search for information, information processing, pre-purchase alternative evaluation, purchase, consumption and post-consumption alternative evaluation and divestment” (Blackwell *et al.*, 2006: 87-91).

Need recognition. The first step of the decision-making process is recognizing there is a need that requires fulfilment. In this stage, the consumer understands there is a gap between the actual state and the desired state at the given period. The realization of the gap acts as a driving force to stimulate and commence the consumption process. The need may be a self-actualization need, esteem need, social need, safety and security need or psychological need (Blackwell *et al.*, 2006).

Search information. The second step of the decision-making process is the search for information. In this stage, the consumer seeks for information from internal sources i.e. memory and/or external sources. The internal source tells the consumers if or not enough information is known about the need. If enough is known the consumers do not engage in external sources or search and carry on to make a pre-purchase evaluation. If the information stored in the consumer's memory is insufficient, the consumer then carries on to seek information from external sources. The depth of the information search is dependent on the nature of the problem solving (Bray, 2008). The external search is motivated by both individual and environmental influences (Blackwell *et al.*, 2006).

Pre-purchase evaluation. The third step of the decision-making process is the evaluation of a decision prior to making the purchase. In this stage, the consumer makes an examination and assessment of the desired products. The consumer checks the products to check if they are of the standard and correct specification that match his/her need(s). The process of evaluation also helps the consumer reduce the number of options to only those preferred (Blackwell *et al.*, 2006).

Purchase. The fourth step of the decision-making process is the actual purchasing of the product. After evaluation, the consumer makes the decision to acquire the desired product and/or service. The decision to purchase may be influenced by factors of the individual differences and/or environmental factors (Blackwell *et al.*, 2006).

Consumption. The fifth step of the decision-making process is the usage of the purchased product. The consumer utilizes the product and/or service purchased. In this stage, marketers are concerned with consumer's reaction to the product that may lead to repurchase rather than just the sale of the products and/or services (Blackwell *et al.*, 2006).

Post-consumption evaluation. The sixth step of the decision-making process is post-consumption evaluation. In this stage, the consumer assesses if the product satisfied or dissatisfied the need. Satisfaction of the product encourages the consumer to engage in the repurchase of the product. In doing so, marketers can trace the consumer's preference of product and invest in improving the product and eliminate the occurrence of returned goods. Dissatisfaction of the product causes post-purchase regret and compels the consumer to engage in further searches (Blackwell *et al.*, 2006).

Divestment. This is the sixth step of the decision-making process. In this stage, the consumer decides to dispose of the product (Blackwell *et al.*, 2006).

iv. Decision Process Variables

The decision process variables comprise of individual differences that influence consumers. The individual differences include five considerations. Namely; “consumer resources, knowledge, attitudes, motivation and personality, values, and lifestyle” (Blackwell *et al.*, 2006: 81-84).

Consumer resources. Three resources make up the consumer's resources. These are time, money and information reception and capabilities. Consumers value their time and do not fancy delays during the purchase process. The financial position of the consumers determines what they

purchase and consume. Information received and what the consumer can do with the information influences search, pre-purchase evaluation and consumption processes. Therefore, consumers carefully allocate resources to meet their needs because some purchase decisions are more important than others are and a number of efforts consumers put into each differ (Blackwell *et al.*, 2006).

Knowledge. Consumer's knowledge entails the information and awareness acquired regarding a product. The knowledge regarding a product is stored in the memory of the consumer. The knowledge stored includes the product type and brand, views, and characteristics of both the product type and precise brand, the accessibility of product concerning the distribution outlets and competitors marketing a similar product (Blackwell *et al.*, 2006).

Attitudes. Consumers evaluate alternatives ranging from positive to negative. Attitudes are a good measure of consumers' behavior towards a product and/or service. The attitude of a consumer influences their choice and it is difficult to alter consumers' attitudes (Blackwell *et al.*, 2006).

Motivation and personality. Motives influence all stages of the decision process. Motives drive the consumer to seek for the desired state. Strong motives can create particular behaviours patterns of consumers, which reveal their personalities (Blackwell *et al.*, 2006).

Values and lifestyles. Values include the consumer's beliefs. Consumer's beliefs influence their decision-making process. Lifestyle includes the opinions, interests, and activities that a consumer engages in. How a consumer lives influences and determines what they choose to purchase (Blackwell *et al.*, 2006).

v. External Influences

The external influences are comprised of environmental situations that affect the consumers. The external influences include five considerations. "Namely; culture, social class, personal influence, family, and situation" (Blackwell *et al.*, 2006: 84-86).

Culture. Culture entails common ideas, values, beliefs, perceptions, wants and needs that consumers relate to within a given society. According to the model, culture provides consumers with a sense of identification and acceptability of certain behavior within the society. Culture influences attitudes, decision-making process and behaviour of consumers (Blackwell *et al.*, 2006).

Social class. These are multiple divisions of consumers within a society of common values, interests and behaviours and bound by common socio-economic status differences i.e. occupations, education, income, and lifestyles. The outcome of social class on consumer behaviour can be identified when monitoring how time the consumer spends, products purchased, the location of purchase and how they purchase products, especially since brands are identified with particular social classes (Blackwell *et al.*, 2006).

Personal influence. This involves the consumer's individual decision. This influence can be either from observing other consumers or on the other hand the active seeking of information (Blackwell *et al.*, 2006).

Family. The family is the most influential group of the consumer's behaviour. This is because consumers are most likely to first consult family members when it comes to making a purchase decision. Family forms a sociable environment from which consumers individually develop their personalities and values. Therefore, the family of the consumer plays a vital role in influencing the choices and purchases the consumer makes (Blackwell *et al.*, 2006).

Situation. According to the model, consumer's behaviour changes as the situation changes. The occurrence of situations is sometimes unpredictable thus influencing consumers either negatively or positively. There are three situational factors that affect consumers, namely; communication, purchase, and the usage situation. Communication situations involve all sources that provide the consumer with information regarding a product i.e. TV adverts, social media. Purchase situations involve the environment within which the purchase takes place i.e. availability of alternatives, availability of details from the memory, the atmosphere of the environment. Usage situation involves consumption of the products. How the consumption of certain products shape the behaviour of consumers (Blackwell *et al.*, 2006).

Below is an illustration of the Engel-Blackwell-Miniard Model showing how the different variables are interrelated as explained above:

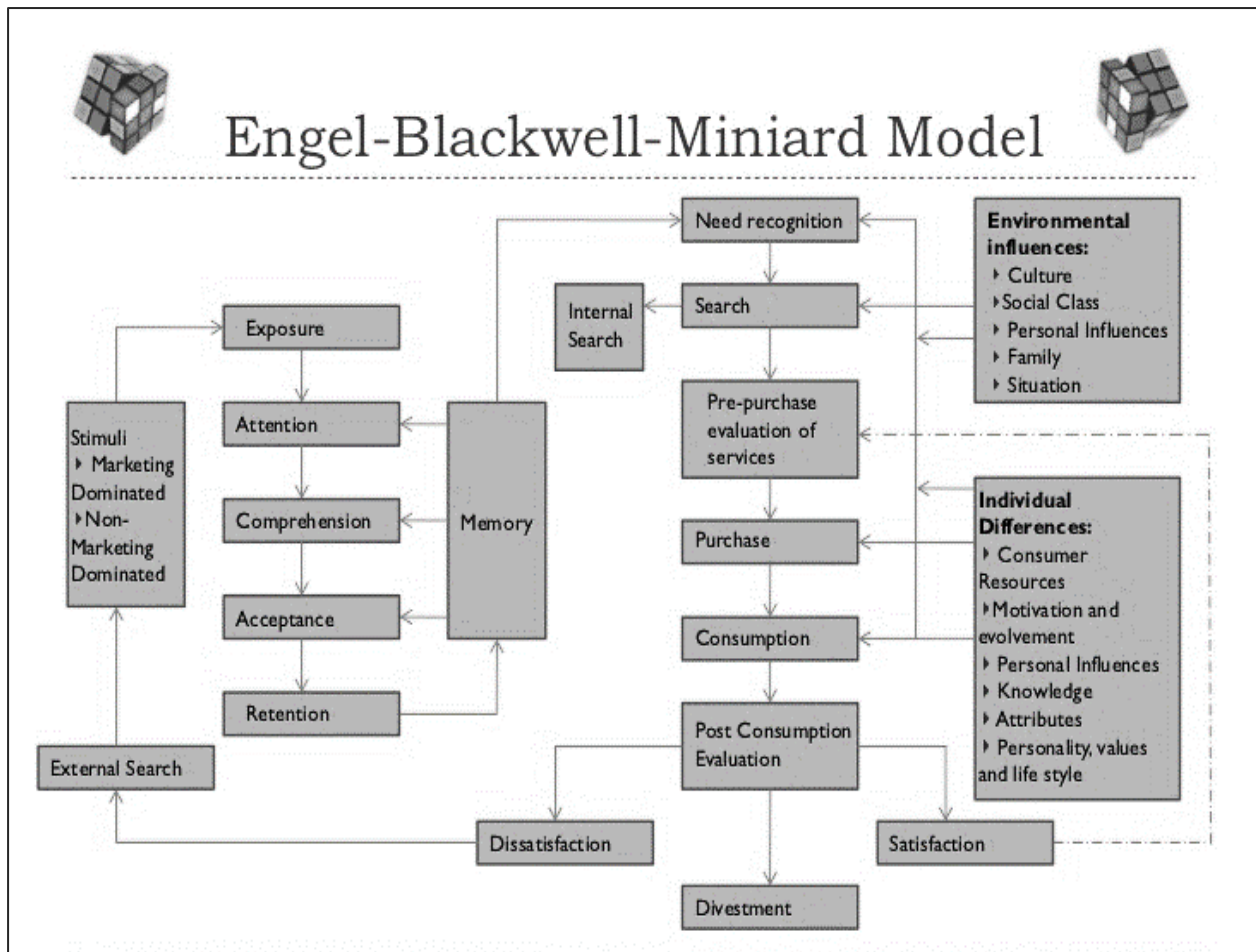


Figure 2.6: The Engel-Blackwell-Miniard Model

Source: Adapted from Blackwell et al. (2006:45); Bray (2008:16)

2.5.2 Theory Application

This theory is applicable to this study because it exhibits a mature framework, that is sequenced and factorised and it can simply evaluate main complex problems (Hsu, Lin & Ho, 2012). Furthermore, this theory is applicable to this study because it acknowledges that strategies used by consumers to make decisions, change, and vary due to context, task-specific factors and from person to person (Karjaluo *et al.*, 2005). The engagement of mobile search and purchase is a confusing process for consumers since the current technology keeps presenting new features and innovations that were not present or available previously (Gandhimathi & Parameshwari, 2015). The theory maps out the complex decision process that helps researchers and marketers understand consumers better. This model will be used to understand students' behavior and the decision variables affecting their choices and satisfaction of mobile phones. It will reveal the key factors

that affect students' choices based on internal (i.e. individual differences) and external factors (i.e. environmental influences) influencing their decision process. Furthermore, based on students' choice, it will identify and narrow down key factors that lead to satisfaction or dissatisfaction as well as yield suggestions that will enable manufacturers to improve mobile phones.

Several authors have used and applied this theory in their studies. The results obtained were relevant and similar but yet varied due to different sample groups and environments the studies were conducted. This theory was used by Jeddi, Atefi, Jalali, Poureisa, and Haghi (2013) to provide a framework for consumer behaviour to simplify for marketers to target their consumers. This model was also used by Sata (2013) to investigate factors affecting consumers' decision in purchasing mobile phones in Hawassa-Ethiopia. Koutras (2006) also used this theoretical framework to examine the consumer behaviour of Generation Y tertiary students of two universities in Johannesburg, towards mobile phones. Natha (2009) used this model to study the consumer behavior of traders for purchasing mobile handsets in Pune. Karjaluoto et al. (2005) used the classical five-step decision-making problem-solving paradigm to study the choice behaviour of Finnish students.

2.5.3 Weakness of the Theory

The weakness of this model is that it accommodates limited situations that a consumer faces in decision-making and does not explain in-depth the impact of environmental factors on consumers (Bray, 2008). The model was developed in a time when there was limited theoretical background. Further research should be undertaken to fill the gaps created by the weaknesses of this theory and accommodate the current trends and behavioural patterns of today's consumer. However, the research framework of this model has been a guidance to understanding consumer behaviour and empirical results obtained from studies have been evident that the model is still applicable in various research studies (Gandhimathi & Parameshwari, 2015).

2.6 Conclusion

This chapter discussed consumer choice and customer satisfaction. In the discussion of consumer choice, the literature discussed in detail consumer choice behaviour and process and factors that affect consumer behaviour. Empirical evidence was presented to indicate the various factors that affected choice. The chapter gathered the important common factors that influenced the choice of consumers' mobile phones in summary. In the discussion of customer satisfaction, the importance

of measuring satisfaction was highlighted as well as determinants of satisfaction empirical evidence were also presented to indicate the various factors that influence the satisfaction of mobile phones. A diagram summarized and highlighted important common factors pertaining to the satisfaction of consumers' mobile phones. Finally, the theoretical framework relating to the research was reviewed.

The literature review has provided comprehensive coverage on both fields of choice and satisfaction. Based on the extent of the literature examined, there lacks adequate examination of important features consumers seek and wish to see improved on mobile phones. The literature also lacks adequate input from South African researchers relating to the topics of customer mobile phone choice and satisfaction within the South African environment, suggesting that it is an under researched area in a South African context. Hence, this study intends to examine these gaps exhibited from the literature review.

The next chapter provides the appropriate approaches to fulfilling the overall objectives of the research.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this chapter is to review the research design and the tools that were used to collect and analyse data. This chapter stipulates reasons the research methods selected are appropriate for this survey study. This section includes coverage of the research design, sampling techniques, data collection methods, validity and reliability of the research tools and the ethical consideration regarding carrying out the actual research. The methodology and various techniques of research were used to gain a thorough understanding of the aspects affecting students' behaviour regarding mobile phone choices and satisfaction.

3.2 Problem Definition

The research process is a step-by-step method that provides a framework on how to solve research problems. The process involves a seven-step method that provides a guideline on conducting research. The steps are; “problem definition, determine research design, determine data collection method, design data collection forms, design sample and data collection, data analysis and presentation and report preparation and presentation” (Churchill, Brown & Suter 2010: 22). This chapter is going to be discussed using the marketing research process.

3.2.1 Research Problem

This is the first step of the research process. It involves identifying and explaining the research problem and its components (Koutras, 2006). The growing competition by mobile phone companies has led to increased concern regarding which mobile phone device is beneficial to own as a consumer considering the vast number of mobile phone brands and versions available to the market. This concern warrants the need to investigate factors that currently determine consumers' choices of mobile phones taking into account the saturated level of the mobile phone industry. The high market penetration and aggressive market-oriented business strategies by mobile phone companies also call for the need to study what consumers consider satisfactory after making mobile purchases. Rahman (2014) explains that consumers continue to be key centers of concern to marketers and marketing managers. Therefore, as mobile subscribers increase and customers continue to be the main focus, challenges associated with mobile phone satisfaction have to be dealt with.

According to Statistics South Africa (2015), KwaZulu-Natal (KZN) province exhibits slow sales of mobile phones' growth compared to other provinces. Most households in KZN province are late adopters compared to other provinces such as Gauteng and Western Cape. In 2015, only 43.2% of KZN households had functional cellular telephones and 42.3% of KZN households had access to internet on their cellular phones, with most households residing in Durban.

The intention of the study is to focus on students' selection of mobile phones in general regardless of brand or mobile network providers. Conducting this study will reveal factors that students of the University of KwaZulu-Natal, Pietermaritzburg campus, consider important before and after purchasing a mobile phone. This study will help marketers and marketing managers to understand the challenges facing consumers prior to the purchase of the mobile phones and post challenges that lead to satisfaction or dissatisfaction. In understanding these challenges marketers will be capable of tailoring products and services in a manner that satisfies students and in the long-run maximize business profit in a very competitive market.

3.2.2 Research Objectives

The main aim of this study is to reveal the key factors affecting choice and satisfaction of mobile phones. The objectives of this study are:

1. To reveal key factors that lead to student choice of the type of mobile phone.
2. To determine key factors responsible for consumer satisfaction pertaining to mobile phones amongst selected groups of the University of KwaZulu-Natal, Pietermaritzburg students.
3. To determine the features students, seek in purchasing a mobile phone.
4. To determine the features that need to be improved on mobile phones.

3.3 Research Design

The second step of the research process is the determination of the research design. This step involves identifying the suitable research type that will provide the necessary results (Koutras, 2006). This nature of this study allows for both exploratory and descriptive designs. The exploratory research design is defined as the design used to clarify and familiarise researchers with an underlying problem (Churchill, *et al.*, 2010). Descriptive research is the type of research that portrays an accurate representation of the elements being studied (Malhotra, Sheth & Wu, 2011). The nature of the problem supports exploratory and descriptive research. The exploratory research

will provide insight on the uncertainties that are associated with students when faced with choice and satisfaction of mobile phones. The descriptive research will clarify and explain factors and features that students consider before purchasing mobile phones. The study is designed to address the research problem by disclosing and clarifying factors hindering choice and satisfaction of students.

3.3.1 Research approach

Qualitative and quantitative approaches are the two main kinds of research approaches. The qualitative approach is used to provide insights and understanding of the underlying problem. Qualitative data cannot be used for generalisation purposes (Sekaran & Bougie, 2013). Quantitative data is measurable and can be used to generalise results of the sample used (Sekaran & Bougie, 2013). This study will employ a quantitative research approach because it is expected to provide both exploratory understanding as well as descriptive insight in keeping with the study objectives.

3.4 Determination of Data Collection Method

Determination of data collection methods is the third step of the marketing research process. In this step, it is explained where the sources of data will come from (Koutras, 2006). Data was extracted using both primary and secondary sources. Primary data is firsthand information obtained directly from students (respondents) while secondary data is information that was previously collected for reuse (Hox & Boeije, 2005). The secondary sources of data for this study included both electronic and printed sources such as journals, books, dissertations, annual reports, private sources, and the government documents (Churchill *et al.*, 2010). Questionnaires were used for collection of primary data.

3.5 Data Collection Forms

The fourth step of the marketing research process is the designing of the data collection tool. This step describes the instrument used to collect data (Koutras, 2006). In this study, a semi-structured questionnaire was used to collect data from the students. This is because questionnaires can reach many respondents at a low cost. A semi-structured questionnaire is a questionnaire that is constructed with questions with predetermined answers and open-ended questions to obtain qualitative and quantitative answers (Churchill *et al.*, 2010). The questionnaire consisted of open-ended questions to obtain in-depth responses about the research questions and closed-ended questions. The closed-ended question was a multichotomous question. “A multichotomous

question is defined as a fixed-alternative question that requires a respondent to choose a response from more than two alternatives that densely correspond to their view on the subject at hand” (Churchill *et al.*, 2010: 196).

The multichotomous question is a 5-point Likert scale statement to show favorable and unfavorable attitudes of the students. A Likert scale is a data collection technique that requires participants to specify their level of agreement or disagreement regarding particular topic statements. The reason for using a Likert scale in this study is that it allows respondents to articulate the extremity of their feelings (Malhotra *et al.*, 2011).

The questionnaire is divided into five parts namely; Part A, Part B, Part C, Part D and Part E. Parts A, B, C & E are Likert scale questions. Part D of the questionnaire is an open-ended question. Part A of the questionnaire addressed objective 1 which questions the factors affecting students’ choice of mobile phones. Part B of the questionnaire addresses objective 2 which questions the factors contributing to the satisfaction of mobile phones. Part C of the questionnaire addressed objective 3 which questions the features students consider when purchasing a mobile phone. Part D of the questionnaire addressed objective 4 which questions the features students wish to see improves on their mobile phones. Part E of the questionnaire addressed objective 2 which questions the satisfaction levels of students with regards to their current mobile phone (See Appendix B). Where possible, questionnaires were delivered in lecture rooms with special permission from the lecturers. Questionnaires were only distributed to students who owned mobile phones. This was ensured by questioning the students beforehand if they owned mobile phones.

3.5.1 Data quality control

These are measures used to ensure data collection instruments are reliable (Churchill, *et al.*, 2010). Reliability and validity are methods used to ensure data collection instruments produce consistent results (Heale & Twycross, 2015).

Reliability and validity in a quantitative research are considered concepts of consistency, objectivity, generalisability, accuracy, and precision (Golfashani, 2003). Validity ensures the instrument of measurement is precise and correct (Heale & Twycross, 2015). Validation ensures that information is correctly captured and errors are eliminated (Sekaran & Bougie, 2013). The questionnaire used in this study was revised to ensure face validity and repeatability.

Reliability is the measurement that indicates the degree to which the data collection tool is fault free and non-biased (Sekaran & Bougie, 2013). The reliability of the questions was verified using the Cronbach's alpha statistical method.

3.5.2 Measurements

Measurement is the process whereby objects are defined and assigned numbers to represent attribute quantities (Sekaran & Bougie, 2013). The Likert scale was used to rate the satisfactory and unsatisfactory attitudes towards the topic of interest (Churchill *et al.*, 2010). Nominal, interval, ordinal and ratio are the four types of measurement scales. This research acquired nominal and ordinal measurement scales. Part D and the introductory section of the questionnaire regarding name, college, represent the nominal aspect of the questionnaire. Parts A, B, C and E represent the ordinal aspect of the questionnaire. An ordinal scale refers to the order of values, which are important and significant and where the variation between objects is unknown i.e. satisfaction. This scale of measurement benefits to distinguish the order of values (Churchill *et al.*, 2010). Nominal scale is a measurement that represents non-numeric variables i.e. age, faculty (Koutras, 2006).

3.5.3 Ethical Consideration

To promote the intentions of the research and build public support, an informed consent has been used. The university provided an informed consent form, which consisted of important information about the nature of the study and informed consent was sought from potential participants. The consent form was provided with each questionnaire distributed. Each student was required to sign the consent form prior to taking part in the study. The consent form binds the researcher in assuring students' dignity, privacy, and confidentiality. The consent form helps to hold researchers responsible for any misconduct or violation that may occur during the research period and after the survey period (See Appendix A).

Furthermore, an ethical clearance form was sought to ensure that the research was carried out ethically without causing any form prejudice to the students partaking in the study. In this study, an ethical clearance with the reference number HSS/0814/016M was provided from the Humanities and Social Sciences Ethics Committee (See Appendix C).

3.6 Design Sample and Data Collection

The fifth step of the marketing research process is the sample design and data collection. This step describes the sampling frame, sample size, sampling location and the sampling plan (Koutras, 2006; Churchill *et al.*, 2010).

3.6.1 Sampling Location

The sampling location is the area the data collection will take place (Sekeran & Bougie, 2013). The study site for this research was the University of KwaZulu-Natal, Pietermaritzburg campus. The Pietermaritzburg campus is in Scottsville suburb, in KwaZulu-Natal Province.

3.6.2 Sampling Frame

A sample refers to a subcategory of the population chosen to partake in a particular study (Churchill, *et al.*, 2010). Students who own mobile phones will participate in this study. The target population for this study was both undergraduate and postgraduate students on the Pietermaritzburg campus. The campus has three colleges: College of Humanities, College of Law and Management and College of Agriculture, Engineering, and Statistics.

The choice of the study population was influenced by the facts that, the youth today, especially the students, are technologically oriented and are into the usage of digital technology. College students consider the mobile phone as the technology of choice over laptops (Yu & Conway, 2012). Therefore, due to their highest projection in their adoption curve and ground-breaking adoption towards technology and innovative features, this segment has become a subject of main concern to the marketers (Shahzad & Sobia, 2013).

3.6.3 Sampling Plan

There are two main classifications of sampling techniques. These are: probability and non-probability sampling (Churchill, *et al.*, 2010). This study used non-probability sampling, which is the method whereby subjects selected for the study are based on the researcher's judgement (Battaglia, 2011). Non-probability sampling is sub-divided into convenience sampling, quota sampling, purposive sampling, and judgmental sampling (Churchill, *et al.*, 2010).

This study used the convenience sampling technique where participants are selected according to the suitable availability (Churchill *et al.*, 2010). This method is suitable because respondents are readily available, it is suitable for limited time and it is cost effective. The downside of this method

is accessing the subjects may require special permission (Battaglia, 2011) and this method cannot account for generalisation of results (Churchill *et al.*, 2010).

3.6.4 Sample size

A sample size is the sum of subjects selected to partake in a particular study (Churchill *et al.*, 2010). The sample size for this study was based on previous similar studies by other researchers such as Singh and Goyal (2009). The sample size for this study was 250 students from a total population of 9276 registered Pietermaritzburg students as per 2015 UKZN registrar statistics (Mokoena, 2015). The sample size is also justified by using the online scientific sample size calculator that uses a confidence level of 95%, confidence interval 6.11, percentage 0.5 and population size of the UKZN students 9276 (Creative Research Systems, no date).

3.7 Data Analysis and Presentation

Data analysis and presentation is the sixth step of the marketing research process. Data analysis and presentation involve the editing, coding, cleaning, transforming of raw data using statistical methods and interpreting the results into meaningful information (Battaglia, 2011). The data extracted from the questionnaire was analyzed using descriptive statistics, Microsoft Excel, SPSS and NVivo.

3.7.1 Descriptive Statistics

The distribution of responses of a variable from the data collected is what is known as descriptive statistics. Descriptive statistics includes measures of central tendency i.e. mean, median and mode and measures of variation i.e. variance and standard deviation (Churchill *et al.*, 2010). Mean and standard deviation are frequently used measures of descriptive statistics. The mean is defined as the average of all responses on a variable. The square root of the variance equals to standard deviation. The disparity of responses on variables is measured by standard deviation (Churchill *et al.*, 2010). Mean was used to show a measure of central tendency and measure of variation.

3.7.2 Microsoft Excel

Microsoft Excel is a program that displays a spreadsheet used for data capturing and analysis (Koutras, 2006). This program was used to create charts, graphs and present descriptive pictures of gender, faculty, and others, based on the results obtained from the SPSS output. The charts included bar graphs and pie charts.

3.7.3 SPSS

SPSS, also known as Statistical Package for the Social Science, is a statistical technique used to analyse data. It can handle large amounts of data, analyse and manipulate data in a complex manner. SPSS has both mathematical and statistical functions that are used to analyse data. It can also be used to present data in reports, charts, distributions plots and trends, descriptive statistics, and complex statistical analysis (Gerber & Finn, 2013). In this study, SPSS was used to analyze data to present reliability analysis, descriptive analysis, cluster analysis and exploratory factor analysis which comprises of the KMO and Bartlett's test, scree plot, total variable explained and rotated component matrix.

3.7.3.1 Reliability Analysis

“A Cronbach's Alpha value of at least 0.700 suggests that the research instrument used is reliable” (Tavakol & Dennick, 2011: 53). The reliability of the questionnaire was tested using Cronbach's Alpha statistics. The outcome showed the questionnaire was reliable with an average score of >0.800.

3.7.3.2 Cluster Analysis

Cluster analysis or clustering is the process of organising a group of entities in such a way that entities in the same category are more alike (in some sense or another) to each other than to those in other categories. The groups are called clusters (Kaufman & Rousseeuw, 2009). This analysis was used in the grouping of participants' year of study, faculty, and gender in correspondence with their sums and percentages.

3.7.3.3 Exploratory Factor Analysis

“Exploratory factor Analysis (EFA) is a statistical method used to reduce data to a smaller set of concise variables and to investigate the underlining theoretical arrangement of the occurrences. It was used to identify the relationship structure between the variable and the respondent” (Williams, Onsman & Brown, 2010: 3). This analysis was used to reveal the key factors affecting choice and satisfaction of mobile phones from broader category of factors. The following are procedures of exploratory factors analysis:

3.7.3.4 KMO and Barlett's Test

“The Kaiser-Meyer-Olkin Measure test was carried out to show the proportion of variance in the variables that might be because of the underlying factors” (Yong & Pearce, 2013: 88). It was used to test sample adequacy of the analysis being conducted. Values close to 0.1 indicate that the data

extracted is useful. Values that are less than 0.50 indicate that the data extracted is or will not be useful (Williams *et al.*, 2010). “Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix, which would suggest that the variables are unrelated and therefore, unsuitable for structure detection. Values less than 0.05 of the significance level indicate that a factor analysis may be useful with the data” (Yong & Pearce, 2013: 89).

3.7.3.5 Total Variance Explained

The total variance explained is made up of three main components. These are: the initial solution, extracted components, and rotated components. The first component is the Initial Eigenvalues (Field, Trickey, Siddaway, Meiser-Stedman & Serpell, 2012). This column shows the percentage variance accounted for each factor and their corresponding cumulative percentages. Extraction sum of square loadings shows the number of factors that are to be retained. The factors retained are to account for at least 60% of the variance. Factors retained have a variance or eigenvalue of 1 or >1. The rotation sums of squared loadings show the variance distribution after the varimax rotation (Field *et al.*, 2012).

3.7.3.6 Rotated Component Matrix

The rotated component matrix is a method that helps to establish what the components represent. It shows the variables loading on each factor with their corresponding values. Variables loading with higher values make up the factors (Field *et al.*, 2012). This method is a necessary step in conducting an EFA analysis because it helps group common variables to create one common factor. This method was used to establish variables that made up the influencing key factors.

3.7.3.7 Scree Plot

This is a presentation of the eigenvalue against the factors or components in descending order. It is used to visually assess which factors express more variability in the data (Yong & Pearce, 2013). The number of factors determines the shape of the plot. The plot has a well-defined break linking the steep slope of factors, with higher eigenvalues and lower eigenvalues (Koutras, 2006: 227). The scree plot was used to break down and display the key influencing factors in the study.

3.7.4 NVivo

This is a computer software by QSR International and a qualitative data analysis method used to easily manage and analyse unstructured data. This software is used to support qualitative and mixed methods research (Bazeley & Jackson, 2013). In this study NVivo was used to analyse additional factors that students mentioned that affected the choice and satisfaction of mobile

phones. Furthermore, it was used to analyze additional features that students seek when purchasing mobile phones. This is presented in Part F.

3.8 Report Preparation and Presentation

Reporting of the results is the last step of the research process. This stage presents and discusses the results and findings obtained from the analysis according to the objectives of the study and the theoretical structure behind the study. This step will be dealt with further in detailed information in chapter five of discussion and six on recommendations.

3.9 Conclusion

This chapter discussed the research approaches used in this study. It emphasized crucial research fundamentals such as research design, sample location, sample size, sample frame, data collection method and data analysis methods. An outline of how validity and reliability concerns were addressed in the study. Furthermore, ethical issues concerning carrying out the study were addressed. The next chapter presents and illustrates the systematic transformation of raw data into significant information.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND INTERPRETATION

4.1 Introduction

This chapter discusses and presents the empirical results of the survey. Descriptive statistics and exploratory factor analysis methods were used to analyse the quantitative data of Parts A, B, C, D, and E of the questionnaire. The qualitative data in Part F has been transcribed using NVivo and a custom table. The analysis and statistical methods are presented as well as the interpretation. The analysis is separated into two sections; Section I and Section II. Section I will present and discuss the overall response rate, the level of study of participants, and faculty and gender participation of the respondents. Section II will discuss each part of the questionnaire. This segment of the analysis and interpretation will be divided into six parts based on the study objectives and the main sections of the questionnaire used in the study namely: Parts A, B, C, D, E and F. Part F interprets the additional factors (i.e. other factors) from the questionnaire that respondents mentioned and considered to influence their choices (Part A) and satisfaction (Part B) of mobile phones as well as the features (Part C) they consider when purchasing a mobile phone (See Appendix B).

4.2 SECTION I:

4.2.1 Overall Response Rate

The targeted sample size was 250. However, seven extra questionnaires were distributed. The extra questionnaires were as a result of miscounting and therefore, the researcher decided to include the excess questionnaires. The total number of participants in this study. The response rate was 100%. The researcher physically distributed the questionnaires. Therefore, this contributed to the high response rate obtained. Additionally, the easiness of questions and organisation of the questionnaire also contributed to the high response rate.

4.2.2 Cluster Breakdown

Table 4.1: Summary of the demographic profile of the respondents

		Count	Table N %
Year of study	Unknown	5	1.9%
	1st year	48	18.7%
	2nd year	37	14.4%
	3rd year	58	22.6%
	4th year	57	22.2%

	Masters	37	14.4%
	Ph.D.	15	5.8%
TOTALS		257	100.0%
Colleges	Unknown	13	5.1%
	Humanities	64	24.9%
	Law and Management studies	107	41.6%
	Agriculture, Engineering, and Sciences	69	26.8%
	Other	4	1.6%
TOTALS		257	100.0%
Gender	Male	130	51.4%
	Female	123	48.6%
TOTALS		253	100.0%

Most the sample constituted of third and fourth year students, with a greater participation of Law and Management students and a gender distribution containing a slightly higher number of male students.

4.2.3 Education level of Participants

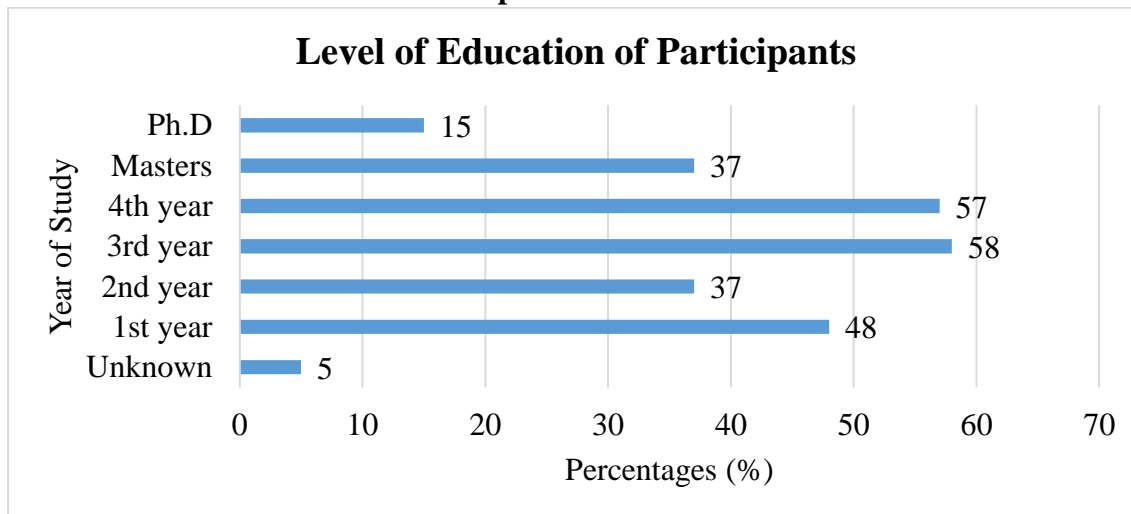


Figure 4.1: Bar graph of the Education Level of Students

The results in the Figure 4.1 show that most participants were third and fourth year students. Third-year students were (n=58) making up 22.6% of the sample size and fourth-year students were (n=57) making up 22.2% of the sample size.

4.2.4 Colleges

Figure 4.2 depicts the distribution of the sample participants based on College. Evidently, students of Law, IT and Management College dominated the survey and made up 42% of the overall population. 27% of the students were from the Agriculture, Engineering, and Sciences College. 25% of the students were from the College of Humanities, 5% accounted for participants who did not indicate their colleges and 1% were from other Colleges. Hence, the majority of the students were from the college of Law and Management studies. The colleges of the participants are shown in the figure below:

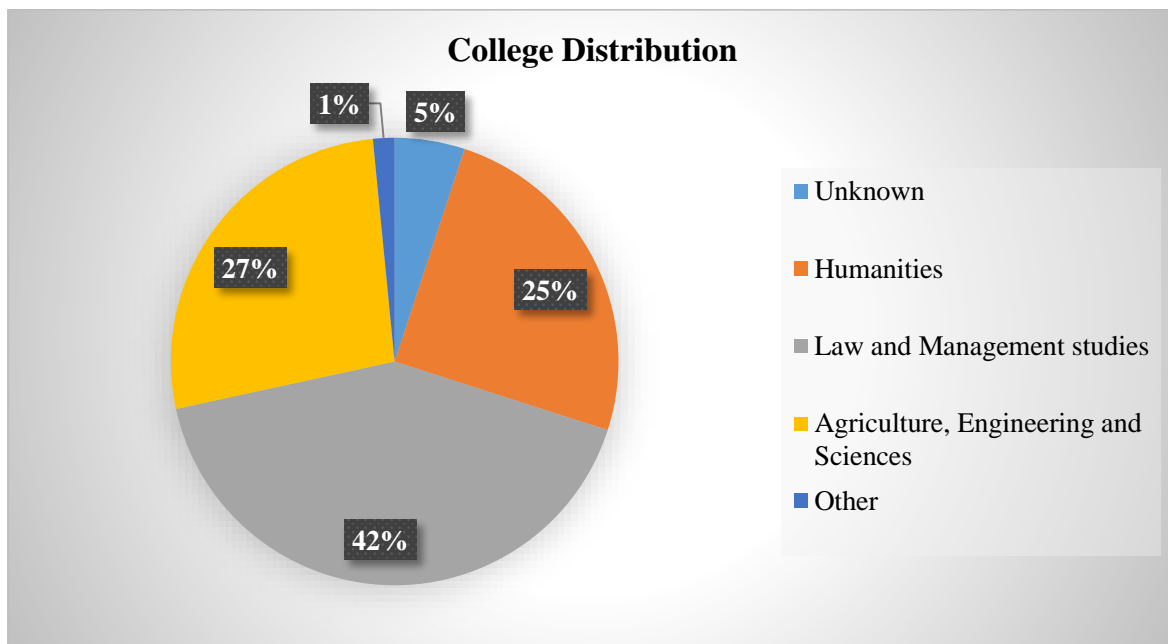


Figure 4.2: College Distribution Chart

4.2.5 Gender

Figure 4.3 below shows the gender distribution of the sample. The results are dominated by the male students who represented 51.4% (n=130) of the total sample size. The female students, however, were not falling far behind as they represented 48.6% (n=123) of the total sample size. The results reflect a fair gender balance of response from the students.

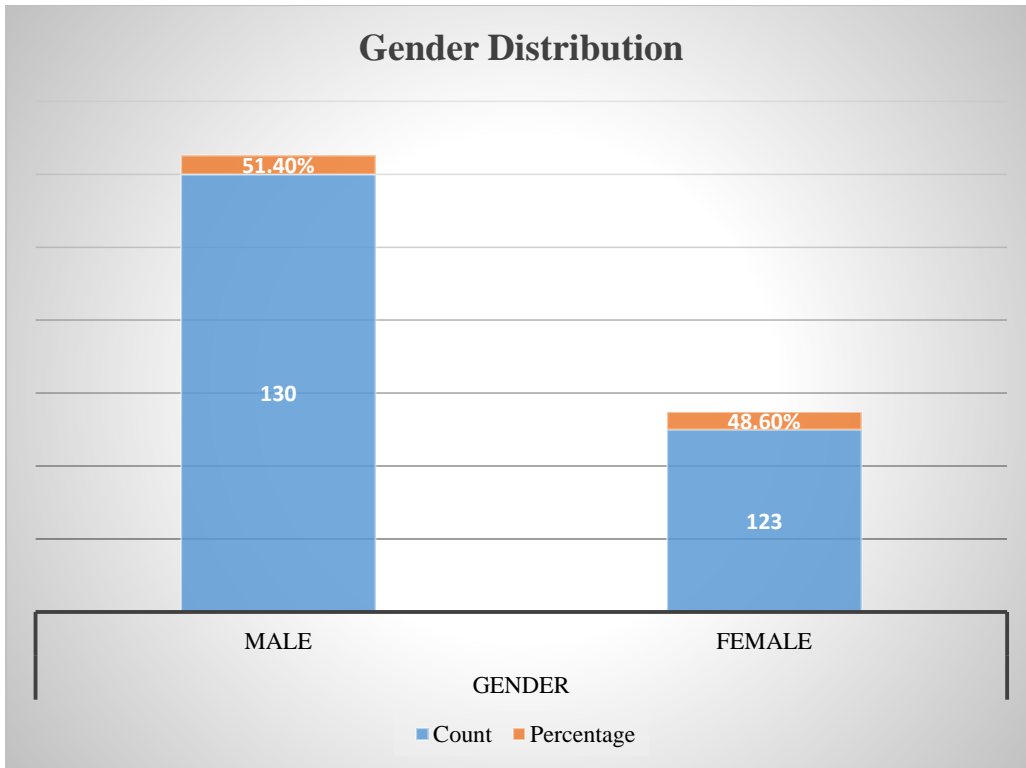


Figure 4.3: Gender Distribution Graph

4.3SECTION II

Section II hereunder discussed the findings based on the questionnaire used in the study and with reference to the objectives of the research. The data analysis of the individual aspects of the questionnaire and the study objectives are presented hereunder in this section.

4.3.1 PART A

Part A of the questionnaire aimed at revealing the factors that contributed to the choice of mobile phones. This section will present and discuss reliability analysis, descriptive analysis, and Exploratory Factor Analysis, which comprises of the KMO and Bartlett's test, Scree plot, Total variable explained and rotated component matrix for Part A.

4.3.1.1 Reliability Analysis

Table 4.2: Reliability Statistics Table of Part A

Reliability Statistics	
Cronbach's Alpha	No. of Items
.840	19

The reliability of the questionnaire was tested using Cronbach’s Alpha statistics. “A Cronbach’s Alpha value of at least 0.700 suggests that the research instrument used is reliable” (Tavakol & Dennick, 2011: 53). Table 4.2 above shows a score of 0.84 which indicates that Part A questions used to reveal factors influencing the choice of mobile phones are reliable.

4.3.1.2 Descriptive Statistics

This analysis presents the measure of central tendency i.e. mean values for factors contributing to mobile phone choice.

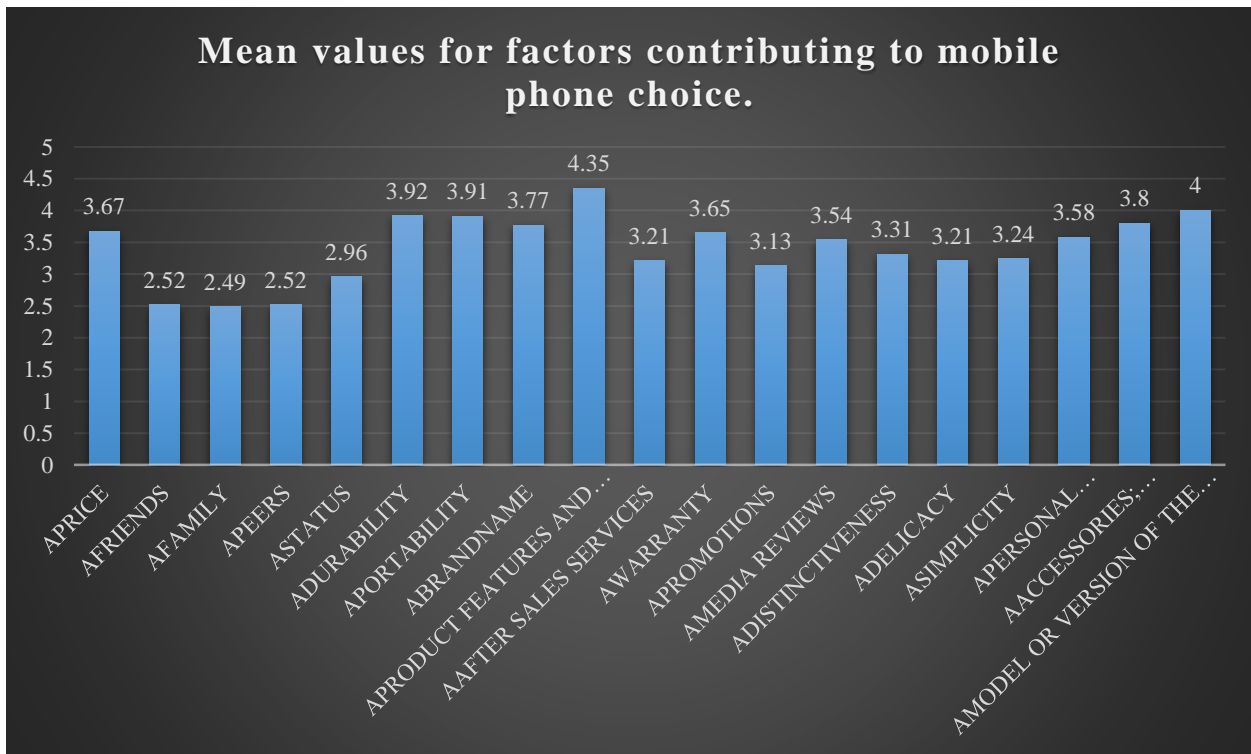


Figure 4.4: Graph showing the mean values for factors contributing to mobile phone choice

Figure 4.4 shows the graph of the mean of factors in Part A. Product features and designs had the highest mean score of 4.35. The family had the lowest mean score of 2.49. This indicates that the most important factor influencing the sample on their mobile phone choice is product features and design and the least influential factor is family.

4.3.1.3 Exploratory Factor Analysis

This analysis was used to reveal the key factors affecting choice of mobile phones.

4.3.1.4 KMO and Bartlett's Test

Table 4.3: KMO and Bartlett's Test Table of Part A

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.783
Bartlett's Test of Sphericity	Approx. Chi-Square	1369.805
	df	171
	Sig.	.000

“The Kaiser-Meyer-Olkin Measure test is carried out to show the proportion of variance in the variables that might be because of the underlying factors” (Yong & Pearce, 2013: 88). It is used to test sample adequacy of the analysis being conducted (Williams *et al.*, 2010). Values close to 0.1 indicate that the data extracted is useful. Values that are less than 0.50 indicate that the data extracted is or will not be useful. Table 4.3 shows a score of 0.783 which indicated that the results from the data are useful. “Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix, which would suggest that the variables are unrelated and therefore, unsuitable for structure detection” (Yong & Pearce, 2013: 89). Values less than 0.05 of the significance level indicate that a factor analysis may be useful with the data. The Table 4.3 above shows a score of 0.00, therefore, indicating that the use of factor analysis is appropriate.

4.3.1.5 Scree Plot

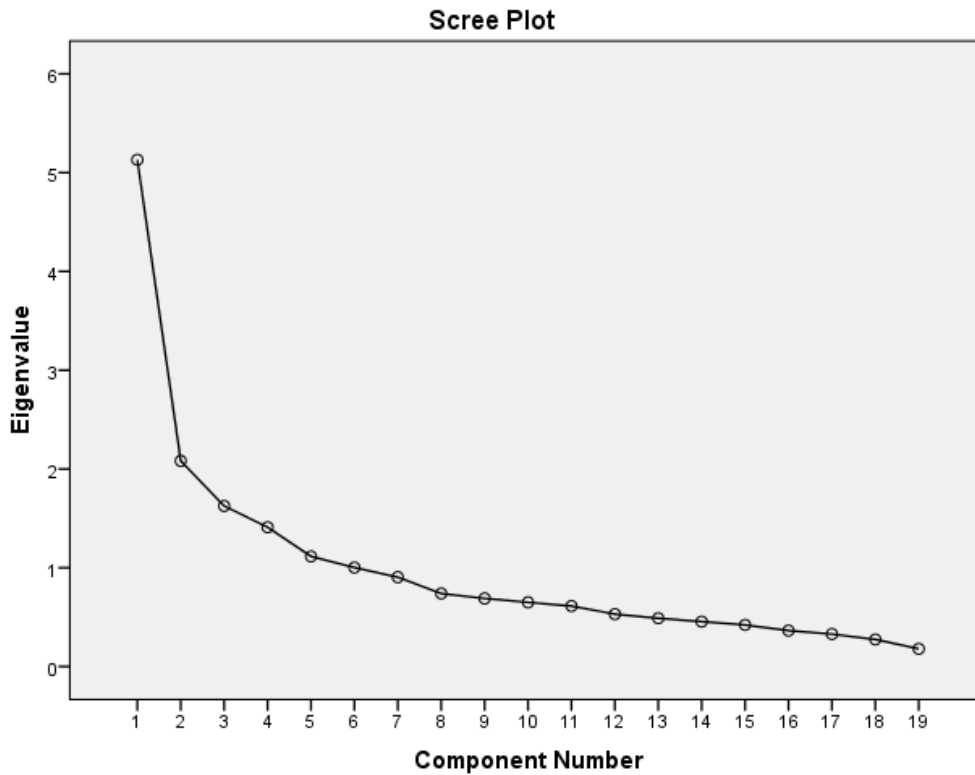


Figure 4.5: Scree Plot graph showing eigenvalues against factors (component numbers).

This is a presentation of the eigenvalue against the factors or components in descending order. It is used to visually assess which factors express more variability in the data (Yong & Pearce, 2013). The number of factors determines the shape of the plot. “The plot has a definite break between the steep slope of factors, with large eigenvalues and small eigenvalues” (Koutras, 2006: 227). The figure 15 above shows that six components are the most important factors according to results from Table 4.5 of the rotated component matrix and total variance explained further below. Hence, based on the sample used in the study, and according to the factor analysis conducted, there are six key factors contributing to the choice of mobile phones as follows:

- Factor 1 *Marketing elements*: there are five variables loading highly on this factor. These variables are product features and design, after sales services, warranty, promotions, and media reviews. This shows that these variables played a major role as a persuading force in students’ choice of mobile phones.

- Factor 2 *Social factors*: there are four variables loading highly on this factor. These variables are friends, peers, family, and status. These variables represent the social class and standing that students refer to in their choice of mobile phones.
- Factor 3 *Design of the mobile phone*: there are three variables loading highly on this factor. These variables are distinctiveness, delicacy, model/version of the phone and accessories. The appearance of the mobile phone influenced the students' choice of the mobile phone.
- Factor 4 *Durability and portability*: there are two variables loading highly on this factor. These variables are durability and portability. Long-lasting and portable phones contributed to the choice of the students' mobile phones.
- Factor 5 *Brand name*: the name of the mobile phone is also a contributing factor to the students' choice of mobile phones.
- Factor 6 *Cost*: the price of the mobile phone also determined the choice of the mobile phone.

The results from the Scree plot above have established six main factors that affect the students' choice of mobile phones. Therefore, marketing elements, social factors, design of the mobile phone, durability and portability, brand name and cost are the key factors affecting the choice of mobile phones of students.

4.3.1.6 Total Variance Explained

Table 4.4: Table of Total Variance Explained showing the number of factors that are retained.

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.130	27.001	27.001	5.130	27.001	27.001	2.934	15.440	15.440
2	2.081	10.955	37.956	2.081	10.955	37.956	2.581	13.583	29.023
3	1.625	8.554	46.510	1.625	8.554	46.510	2.062	10.853	39.876
4	1.411	7.424	53.934	1.411	7.424	53.934	1.903	10.017	49.892
5	1.115	5.867	59.801	1.115	5.867	59.801	1.492	7.851	57.743
6	1.002	5.273	65.075	1.002	5.273	65.075	1.393	7.331	65.075
7	.904	4.760	69.835						
8	.739	3.890	73.725						
9	.689	3.628	77.353						
10	.650	3.420	80.773						
11	.612	3.223	83.996						
12	.530	2.792	86.788						
13	.489	2.572	89.361						
14	.455	2.393	91.754						
15	.422	2.218	93.972						
16	.364	1.913	95.885						
17	.329	1.729	97.614						
18	.274	1.441	99.056						
19	.179	.944	100.000						

Extraction Method: Principal Component Analysis.

The total variance explained of the initial solution, extracted components, and rotated components are demonstrated in Table 4.4 above. The first section of the table is the Initial Eigenvalues. This column shows the percentage variance accounted for each factor and their corresponding cumulative percentages. Extraction sum of square loadings shows the number of factors that are to be retained. The factors retained are to account for at least 60% of the variance (Field *et al.*, 2012). Factors retained have a variance/ eigenvalue of 1 or >1. The rotation sums of squared loadings shows the variance distribution after the varimax rotation (Field *et al.*, 2012). In table 4.4, six factors have eigenvalues greater than 1. These factors are retained because they account for a cumulative percentage of 65.075. The highlighted box above shows total percentage of the variance loading with each of the six factors.

4.3.1.7 Rotated Component Matrix

Table 4.5: Table showing the factors loading for each variable.

Rotated Component Matrix						
	Component					
	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
APRICE		.147		.173		.848
AFRIENDS		.868				.172
AFAMILY	.187	.759				
APEERS		.877	.154			.134
ASTATUS	.146	.462	.307		.336	.275
ADURABILITY			.160	.798		
APORTABILITY			.128	.806		.145
ABRANDNAME	.321	.329	.242	.250	.525	
APRODUCT FEATURES AND DESIGN	.500		.117	.360	.418	.259
AAFTER SALES SERVICES	.727	.167		.267		-.166
AWARRANTY	.762			.271		
APROMOTIONS	.675		.228	-.244		
AMEDIA REVIEWS	.638	.142	.239	-.211		.268
ADISTINCTIVENESS	.140		.819	.194		
ADELICACY	.203	.146	.818	.132	-.102	
ASIMPLICITY	.155		.199	.248	-.723	
APERSONAL RECOMMENDATIONS	.474	.122	.127		-.445	.271
AACCESSORIES; HEADPHONES, SCREEN, PROTECTOR, CASE, EAR BUDS AND EXTRA BATTERY	.353		.359	.120	.111	.420
AMODEL OR VERSION OF THE MOBILE PHONE	.330	.180	.420		.398	.295

The Rotated Component Matrix Table above shows the factor loadings for each variable and shows the number of factors that each variable strongly loads on. The first five subsets as highlighted above, namely; product features and design, after sales services, promotions, warranty, and media

reviews contribute the highest to the total variance in the dataset at 15.4% on factor 1 which can be categorized as Marketing Elements. The next subset highlighted is categorized as Social Factors (Factor 2) and contributes 13.5% to the variance. This factor is made up of friends, peers, family, and status and is accordingly termed Social Factors. The next highlighted set of variables that contributes 10.8% to the variance on factor 3 is categorized as Design of the Mobile Phone. Factor 3 is made up of distinctiveness, delicacy, model/version of the phone and accessories. The next highlighted set of variables that contributes 10% to the variance on factor 4 is categorized as Durability and Portability. Factor 4 is made up of portability and durability. The next highlighted variable that contributes 7.8% to the variance on factor 5 is categorized as Brand name. Factor 5 is made of the brand name of the mobile phone. Finally, the last highlighted variable that contributes 7.3% to the variance on factor 6 is categorized as cost. Factor 6 is made up of price.

4.3.2 PART B

Part B of the questionnaire aimed at revealing the factors that contributed to the satisfaction of mobile phones. This section will present and discuss reliability analysis, descriptive analysis, and Factor Analysis, which comprises of the KMO and Bartlett's test, Scree plot, Total variable explained and rotated component matrix for Part B.

4.3.2.1 Reliability analysis

Table 4.6: Reliability Analysis Table of Part B

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.857	.868	24

“The reliability of the questionnaire was tested using Cronbach’s Alpha statistics. A Cronbach’s Alpha value of at least 0.700 suggests that the research instrument used is reliable” (Tavakol & Dennick, 2011: 53). Table 7 above shows a score of 0.857 which indicates that Part B questions used to reveal factors influencing the satisfaction of mobile phones are reliable.

4.3.2.2 Descriptive Statistics

This analysis presents the measure of central tendency i.e. mean values for factors contributing to mobile phone satisfaction.

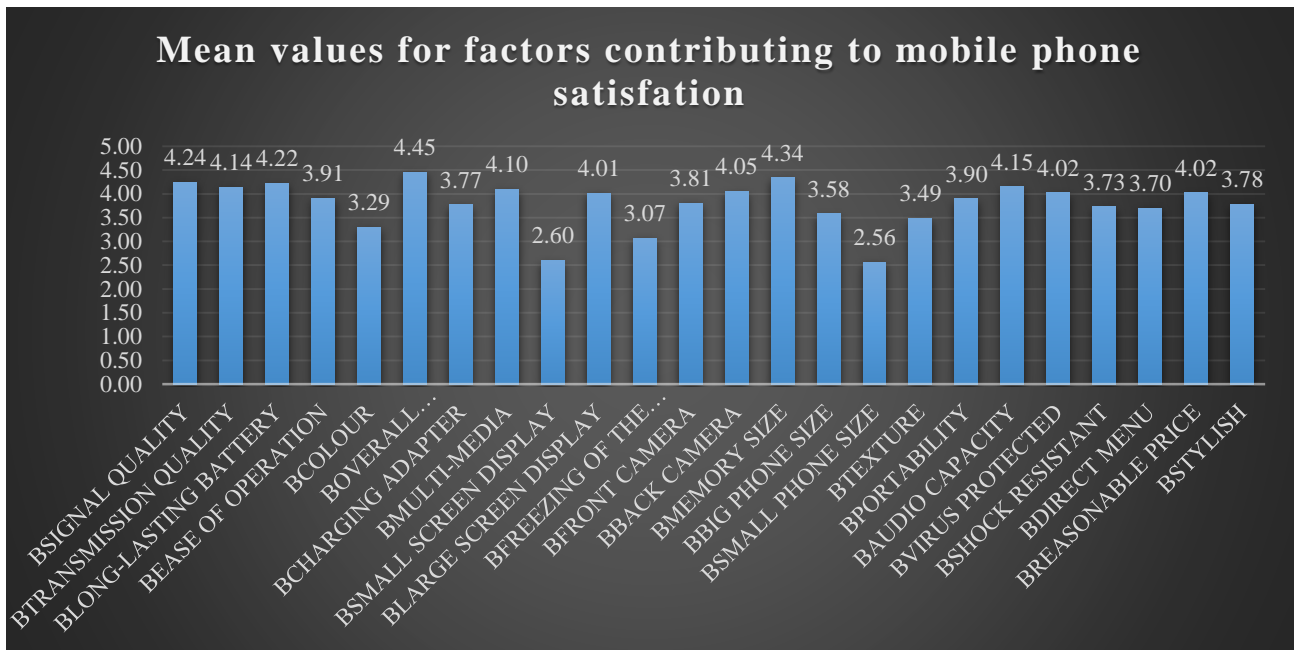


Figure 4.6: Graph showing the mean values for factors contributing to mobile phone satisfaction. Figure 4.6 shows the graph of the mean of factors in Part B. Overall performance has the highest mean score of 4.45. Small screen display and small phone size have the lowest close mean scores of 2.59 and 2.56 respectively This indicates that majority of the students are most satisfied with the overall performance of the mobile phone and least satisfied by small sized phones.

4.3.2.3 Exploratory Factor Analysis

This analysis was used to reveal the key factors affecting satisfaction of mobile phones.

4.3.2.4 KMO and Bartlett's Test

Table 4.7: KMO and Bartlett's Test of Part B

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.836
Bartlett's Test of Sphericity	Approx. Chi-Square	1947.112
	df	276
	Sig.	.000

“In Kaiser-Meyer-Olkin’s measure test, values close to 0.1 indicate that the data extracted is useful. Values that are less than 0.50 indicate that the data extracted is or will not be useful” (Yong & Pearce, 2013:88). Table 4.7 above shows a score of 0.836 which indicated that the results from the

data are useful. “Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix, which would suggest that the variables are unrelated and therefore, unsuitable for structure detection” (Yong & Pearce, 2013: 89). Values less than 0.05 of the significance level indicate that a factor analysis may be useful with the data. The Table 4.7 above shows a score of 0.00, therefore, indicating that the use of factor analysis is appropriate.

4.3.2.5 Scree Plot

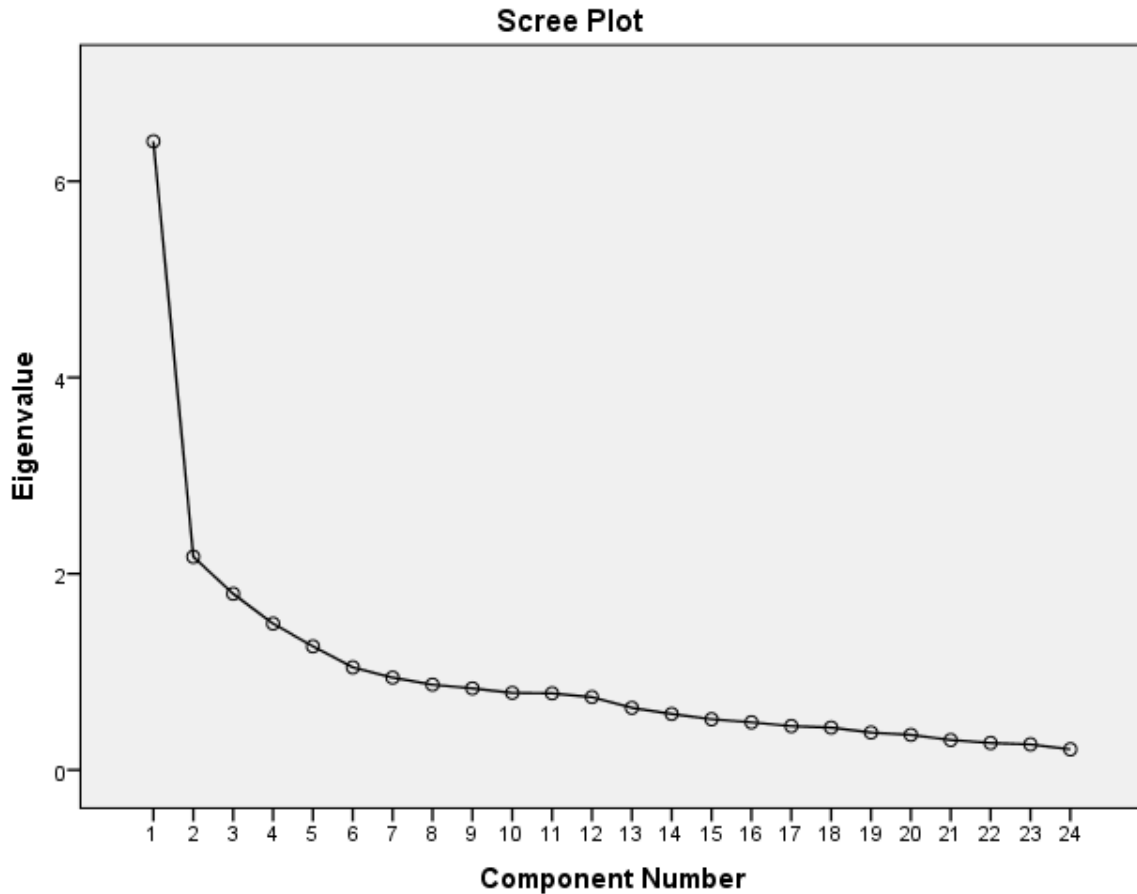


Figure 4.7: Scree Plot graph showing eigenvalues against factors (component numbers).

This is a presentation of the eigenvalue against the factors or components in descending order. It is used to visually assess which factors express more variability in the data (Yong & Pearce, 2013). The Figure 4.7 above shows that six components are the most important factors according to results from Table 4.9 of the rotated component matrix and total variance explained further below. Hence, based on the sample used in the study, and according to the factor analysis conducted, there are six key factors contributing to the satisfaction of mobile phones as follows;

- Factor 1 *Internal attributes*: these are internal features of the mobile phone. There are six variables loading highly on this factor. These variables are virus protected, audio capacity, shock resistant, direct menu, portability, and multimedia. This shows that these interior features played a major role in the satisfaction of students' of mobile phones.
- Factor 2 *External attributes*: these are the external features of the mobile phone. There are five variables loading highly on this factor. These variables are a front camera, back camera, memory size, large screen display and big phone size. This shows that these exterior features played a major role in the satisfaction of students' of mobile phones.
- Factor 3 *Performance attributes*: this is the ease of use of which the mobile phone. There are five variables loading highly on this factor. These variables are transmission quality, signal quality, long-lasting battery, ease of operation and overall performance. The easier it is to use a mobile phone, the more satisfaction with the mobile phone is achieved by the students.
- Factor 4 *Style*: how stylish the mobile phone appears increases the satisfaction levels of respondents. The variables loading heavily on this factor are colour, stylish, big phone size, and texture.
- Factor 5 *Small mobile phones*: there are two variables loading heavily on this factor. These are small size mobile phone and small screen mobile phone. This shows that these features played a major role in the satisfaction of students' of mobile phones.
- Factor 6 *Cost*: the cost of the mobile phone also influences the satisfaction level of the respondents. The variable loading on this factor is the price.

The results from the Scree plot above have established six main factors that affect the students' satisfaction of mobile phones. Therefore, internal attributes, external attributes, performance attributes, style, small mobile phones, and cost are the key factors affecting the satisfaction of mobile phones of students.

4.3.2.6 Total Variance Explained

Table 4.8: Table of Total Variance Explained showing the number of factors that are to be retained.

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
				Loadings			Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.407	26.696	26.696	6.407	26.696	26.696	3.460	14.416	14.416
2	2.173	9.053	35.749	2.173	9.053	35.749	2.753	11.473	25.889
3	1.795	7.481	43.230	1.795	7.481	43.230	2.609	10.870	36.759
4	1.491	6.213	49.443	1.491	6.213	49.443	2.447	10.197	46.956
5	1.259	5.248	54.691	1.259	5.248	54.691	1.734	7.224	54.180
6	1.046	4.357	59.048	1.046	4.357	59.048	1.168	4.868	59.048
7	.941	3.921	62.969						
8	.869	3.621	66.590						
9	.832	3.466	70.056						
10	.785	3.272	73.327						
11	.781	3.254	76.582						
12	.742	3.093	79.675						
13	.633	2.639	82.313						
14	.571	2.379	84.692						
15	.517	2.155	86.847						
16	.486	2.024	88.871						
17	.448	1.865	90.736						
18	.432	1.801	92.537						
19	.381	1.588	94.125						
20	.358	1.492	95.618						
21	.305	1.272	96.890						
22	.275	1.146	98.035						
23	.261	1.087	99.122						
24	.211	.878	100.000						

Extraction Method: Principal Component Analysis.

The total variance explained of the initial solution, extracted components, and rotated components are demonstrated in the table above. The first section of the table is the Initial Eigenvalues. This column shows the percentage variance accounted for each factor and their corresponding cumulative percentages. Extraction sum of square loadings shows the number of factors that are to be retained. The factors retained are to account for at least 60% of the

variance. Factors retained have a variance/ eigenvalue of 1 or >1 (Field *et al*, 2012). The rotation sums of squared loadings shows the variance distribution after the varimax rotation (Field *et al.*, 2012). In Table 4.8, six factors that have eigenvalues greater than 1. These factors are retained because they account for a cumulative percentage of 59.048. The highlighted box above shows total percentage of the variance loading with each of the six factors.

4.3.2.7 Rotated Component Matrix

Table 4.9: Table showing the factors loading for each variable.

Rotated Component Matrix						
	Component					
	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
BVIRUS PROTECTED	.796	.132	.242			
BAUDIO CAPACITY	.762	.240	.141	.141		
BSHOCK RESISTANT	.706	.105	.264			.128
BDIRECT MENU	.634		.105	.492		
BPORTABILITY	.623	.220	.229			
BMULTI-MEDIA	.447	.330	.213	.315		-.168
BBACK CAMERA	.160	.757		.185		.111
BFRONT CAMERA	.171	.753		.211		
BMEMORY SIZE	.319	.670	.183	-.159		
BLARGE SCREEN DISPLAY	.125	.543		.376	-.149	-.153
BTRANSMISSION QUALITY	.273		.791			
BSIGNAL QUALITY	.237		.778			
BLONG-LASTING BATTERY	.127	.148	.604	-.127		.379
BEASE OF OPERATION	.134		.552	.260	.126	
BOVERALL PERFORMANCE	.324	.331	.437		-.111	.101
BCOLOUR			.117	.773		.134
BSTYLISH	.236	.338		.553		.324
BBIG PHONE SIZE		.427	.158	.519	-.221	-.137
BTEXTURE	.322	.132		.515		.278
BCHARGING ADAPTER	.293		.277	.446	.183	-.239
BSMALL PHONE SIZE	.190				.754	
BSMALL SCREEN DISPLAY		-.127		.193	.743	-.108
BFREEZING OF THE TOUCH EFFECT		.371	.228	-.128	.666	
BREASONABLE PRICE	.123		.197	.218		.786

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

The Rotated Component Matrix Table shows the factor loadings for each variable and shows the number of factors that each variable strongly loads on. The first six subsets as highlighted above, namely; virus protected, audio capacity, shock resistant, direct menu, portability, and multimedia load contribute the highest to the total variance in the dataset at 14.4% on factor 1 which can be categorized as Internal Attributes of the Mobile Phone. The next subset highlighted is categorized as External Attributes of the Mobile Phone (Factor 2) and contributes 11.4% to the variance. This factor is made up of a front camera, back camera, memory size, large screen display and big phone size. The next highlighted set of variables that contributes 10.8% to the variance on factor 3 is categorized as Performance Attributes of the Mobile Phone. Factor 3 is made up of transmission quality, signal quality, long-lasting battery, ease of operation and overall performance. The next highlighted set of variables that contributes 10.1% to the variance on factor 4 is categorized as Style of the Mobile Phone. Factor 4 is made up of colour, stylish, big phone size, and texture. The next highlighted variables that contributes 7.2% to the variance on factor 5 is categorized as Small Mobile Phone. Finally, the last highlighted variable that contributes 4.8% to the variance on factor 6 is categorized as cost. Factor 6 is made up of reasonable price.

4.3.3 PART C

Part C of the questionnaire aimed at revealing the features that consumers consider when purchasing a mobile phone. This section will present and discuss reliability analysis, descriptive analysis, and exploratory factor Analysis which comprises of the KMO and Bartlett's test, Scree plot, Total variable explained and rotated component matrix for Part C.

4.3.3.1 Reliability analysis

Table 4.10: Reliability Analysis Table of Part C

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.912	.915	24

“The reliability of the questionnaire was tested using Cronbach’s Alpha statistics. A Cronbach’s Alpha value of at least 0.700 suggests that the research instrument used is reliable” (Tavakol &

Dennick, 2011: 53). Table 4.10 above shows a score of 0.912 which indicates that Part C questions used to reveal the features that consumers consider when purchasing mobile phones are reliable.

4.3.3.2 Descriptive Statistics

This analysis presents the measure of central tendency i.e. mean values for features students seek when purchasing mobile phones.

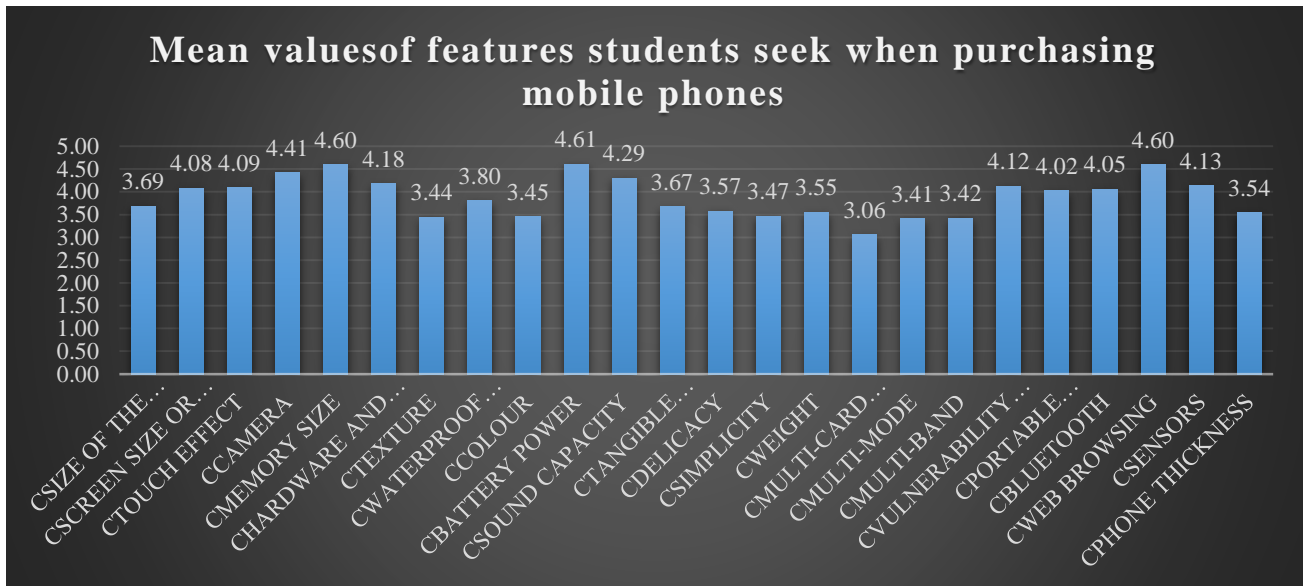


Figure 4.8: Graph showing the mean values for features students seek when purchasing to mobile phones.

Figure 4.8 shows the graph of the mean in Part C. Battery power has the highest mean score of 4.60. Multi-card hybrid has the lowest mean score of 3.05. This indicates that battery power is the most looked at feature when students purchase mobile phones and the duo sim card is the least preferred feature when purchasing mobile phones.

4.3.3.3 Exploratory Factor Analysis

This analysis was used to reveal the key features that students seek when purchasing mobile phones.

4.3.3.4 KMO and Bartlett's Test

Table 4.11: KMO and Bartlett's Test Table of Part C

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.854
Bartlett's Test of Sphericity	Approx. Chi-Square	2287.273
	df	276
	Sig.	.000

Table 4.11 above shows a Kaiser-Meyer-Olkin measure score of 0.854 which indicates that the results obtained from Part C questions are useful. “Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix, which would suggest that the variables are unrelated and therefore, unsuitable for structure detection” (Yong & Pearce, 2013: 89). Values less than 0.05 of the significance level indicate that a factor analysis may be useful with the data. The Table 4.11 above shows a score of 0.00, therefore, indicating that the use of factor analysis is appropriate.

4.3.3.5 Scree Plot

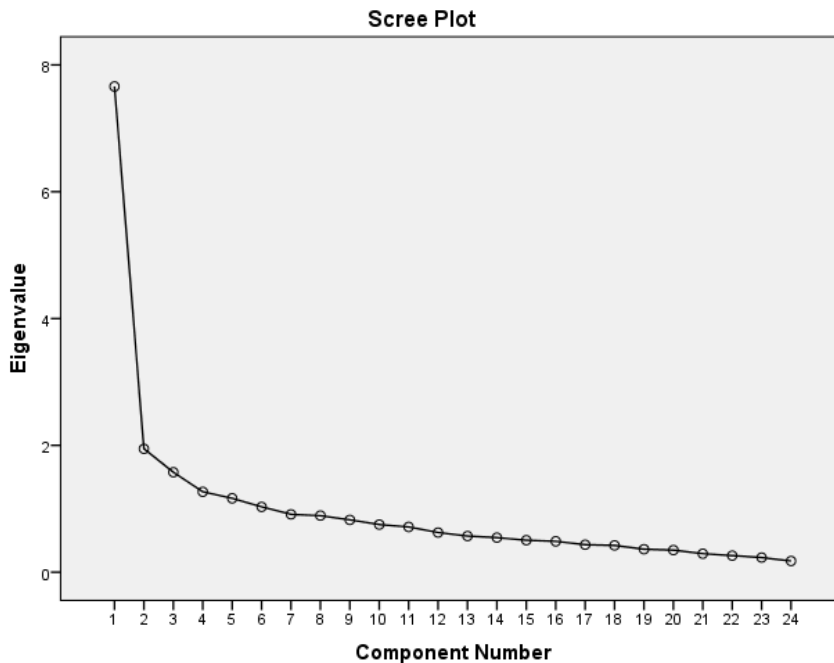


Figure 4.9: Scree Plot graph showing eigenvalues against features (component numbers).

This is a presentation of the eigenvalue against the features or components in descending order. It is used to visually assess which factors express more variability in the data (Yong & Pearce, 2013). Figure 4.9 above shows that six components are the most important features according to results from Table 4.13 of the rotated component matrix and total variance explained further below. Hence, based on the sample used in the study, and according to the factor analysis conducted, there are six key features that students seek when purchasing mobile phones as follows;

- Factor 1 *Size of the mobile phone*: There are four variables loading highly on this factor. These variables are screen size or display, the size of the mobile phone, touch effect, and phone thickness. This shows that these features played a major role in the purchasing decision of students.
- Factor 2 *Output attributes of the mobile phone*: these are features of the mobile phone that produce specific outcomes on command. There are four variables loading highly on this factor. These variables are sound capacity, memory size, battery power, and camera. This shows that these output features played an important role in the purchasing decision of students.
- Factor 3 *the build/make of the mobile phone*: this is the unique and distinctive aspect that makes a mobile phone better than its competitor. There are four variables loading highly on this factor. These variables are texture, hardware and software interfaces, delicacy, and waterproof effect. The more creativity and unique build of the mobile phone, the more likely the student is going to purchase the mobile phone.
- Factor 4 *Basic model*: how simple the mobile phone appears increases the purchase chances of the students. The variables loading heavily on this factor are simplicity, multi-card hybrid, weight, and multi-mode.
- Factor 5 *Technology features*: there are three variables loading heavily on this factor. These are a portable charging adapter, vulnerability to viruses and web browsing. This shows that these features played a major role in the purchasing decision of students.
- Factor 6 *Generation of the mobile phone*: the duration making of the mobile phone also influences the purchasing decisions of the students. The variable loading on this factor is multi-band which entails 2G, 3G, and 4G networks. “G” stands for the generation making of the wireless network technology.

The results from the Scree plot above have established six main features that the students seek when purchasing mobile phones. Therefore, size of the mobile phone, output attributes of the mobile phone, build/make of the mobile phone, basic model, technology features and generation of the mobile phone are the key features that students seek on their mobile phones.

4.3.3.6 Total variance Explained

Table 4.12: Table of Total Variance Explained showing the number of factors that are to be retained.

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
	Total	% of Variance	Cumulative %	Loadings			Loadings		
				Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.660	31.917	31.917	7.660	31.917	31.917	2.750	11.459	11.459
2	1.946	8.109	40.026	1.946	8.109	40.026	2.726	11.359	22.818
3	1.577	6.569	46.595	1.577	6.569	46.595	2.702	11.257	34.075
4	1.268	5.285	51.880	1.268	5.285	51.880	2.697	11.239	45.313
5	1.165	4.855	56.734	1.165	4.855	56.734	2.340	9.749	55.062
6	1.030	4.293	61.027	1.030	4.293	61.027	1.432	5.965	61.027
7	.913	3.803	64.830						
8	.892	3.716	68.546						
9	.825	3.438	71.985						
10	.751	3.128	75.113						
11	.713	2.972	78.085						
12	.626	2.606	80.691						
13	.570	2.374	83.066						
14	.545	2.272	85.338						
15	.504	2.101	87.439						
16	.487	2.030	89.469						
17	.433	1.803	91.271						
18	.422	1.759	93.031						
19	.363	1.512	94.542						
20	.349	1.452	95.995						
21	.292	1.217	97.211						
22	.262	1.090	98.302						
23	.230	.960	99.262						
24	.177	.738	100.000						

Extraction Method: Principal Component Analysis.

The total variance explained of the initial solution, extracted components, and rotated components are demonstrated in Table 4.12 above. The factors retained are to account for at least 60% of the variance. Factors retained have a variance/ eigenvalue of 1 or >1 (Field *et al.*, 2012). In table 4.12, six factors that have eigenvalues greater than 1. These factors are retained

because they account for a cumulative percentage of 61.027. The highlighted box above shows total percentage of the variance loading with each of the six factors.

4.3.3.7 Rotated Component Matrix

Table 4.13: Table of Rotated Component Matrix showing the factors loading for each variable.

Rotated Component Matrix						
	Component					
	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
CSCREEN SIZE OR DISPLAY	.866	.143			.184	
CSIZE OF THE MOBILE PHONE	.831			.143		.100
CTOUCH EFFECT	.653	.339	.255		.157	
CPHONE THICKNESS	.460	.263	.150	.444		
CSOUND CAPACITY	.126	.728	.102	.198	.215	
CMEMORY SIZE	.225	.657	.217		.167	-.183
CBATTERY POWER		.575		.105	.487	
CCAMERA	.422	.558	.297	.117	.197	-.128
CTEXTURE	.168	.157	.713	.296		
CHARDWARE AND SOFTWARE INTERFACES	.170		.694		.354	-.124
CDELICACY	.168		.604	.302	.312	.379
CWATERPROOF EFFECT		.411	.552	.141	.115	
CTANGIBLE QWERTY KEYBOARD	.103	.383	.396	.318		.167
CSIMPLICITY		-.159	.227	.681	.154	
CMULTI-CARD HYBRID PHONE		.277	.206	.677		.165
CWEIGHT	.244	.144		.673	.226	
CMULTI-MODE		.238	.420	.575	.210	.192
CBLUETOOTH	.196	.235		.376	.376	-.348
CCOLOUR	.347	.321	.316	.353	-.198	
CVULNERABILITY TO VIRUSES	.142	.113	.145	.171	.732	.137
CPORTABLE CHARGING ADAPTER		.327	.148	.159	.614	.111
CWEB BROWSING	.152	.191	.288	.117	.570	-.416
CMULTI-BAND	.107		.112	.105	.139	.786
CSENSORS	.211	.281	.355	.249	.335	-.391

Extraction Method: Principal Component Analysis.

The Rotated Component Matrix Table shows the factor loadings for each variable and shows the number of factors that each variable strongly loads on. The first four subsets as highlighted above, namely; screen size or display, the size of the mobile phone, touch effect and phone thickness contribute the highest to the total variance in the dataset at 11.4% on factor 1 which can be categorized as Size of the Mobile Phone. The next subset highlighted is categorized as Output Attributes of the Mobile Phone (Factor 2) and contributes 11.3% to the variance. This factor is made up of sound capacity, memory size, battery power, and camera. The next highlighted set of variables that contributes 11.25% to the variance on Factor 3 is categorized as Build of the Mobile Phone. Factor 3 is made up of texture, hardware and software interfaces, delicacy, and waterproof effect. The next highlighted set of variables that contributes 11.23% to the variance on Factor 4 is categorized as Basic Model of the Mobile Phone. Factor 4 is made up of simplicity, multi-card hybrid, weight, and multi-mode. The next highlighted variable that contributes 9.7 % to the variance on Factor 5 is categorized as Technology Features. Factor 5 is made of portable charging adapter, vulnerability to viruses and web browsing. Finally, the last highlighted variable that contributes 5.9% to the variance on Factor 6 is categorized as Generation of the Mobile Phone. Factor 6 is made up of multi-band.

4.3.4 PART D

Part D of the questionnaire aimed at revealing the features that students wished to see improved on their mobile phones. Part D was an open-ended question and students were required to mention any features they wished to see improved on their mobile phones in descending order of importance. The students mentioned 28 features that were analyzed using custom tables. The custom table shows the results of the favoured (yes) and the unfavoured (no) features that the students stated. The interpretation below reported on features that students favoured. This is because the results on favoured features will answer objective 4. Below is a table displaying the features and their respective percentage count.

4.3.4.1 Custom Table

Table 4.14: Custom Table: Factors that need to be improved to increase Satisfaction.

		Count	Table N %
DPHONE THICKNESS	Yes	6	2.3%
	No	251	97.7%
	Total	257	100.0%
DBATTERY	Yes	128	49.8%

		Count	Table N%
	No	129	50.2%
	Total	257	100.0%
DCAMERA	Yes	104	40.5%
	No	153	59.5%
	Total	257	100.0%
DAUDIO CAPACITY	Yes	47	18.3%
	No	210	81.7%
	Total	257	100.0%
DMEMORY SIZE	Yes	106	41.2%
	No	151	58.8%
	Total	257	100.0%
DSCREEN SIZE	Yes	18	7.0%
	No	239	93.0%
	Total	257	100.0%
DVIRUS PROTECTED	Yes	24	9.3%
	No	233	90.7%
	Total	257	100.0%
DMEDIA	Yes	6	2.3%
	No	251	97.7%
	Total	257	100.0%
DWEB BROWSING	Yes	33	12.8%
	No	224	87.2%
	Total	257	100.0%
DBRIGHTNESS	Yes	10	3.9%
	No	247	96.1%
	Total	257	100.0%
DCOLOUR OF THE MOBILE PHONE	Yes	7	2.7%
	No	250	97.3%
	Total	257	100.0%
DWEIGHT OF THE PHONE	Yes	20	7.8%
	No	237	92.2%
	Total	257	100.0%
DTEXTURE	Yes	11	4.3%
	No	246	95.7%
	Total	257	100.0%
DPHONE DESIGN	Yes	58	22.6%
	No	199	77.4%
	Total	257	100.0%

		Count	Table N%
DSCREEN SENSITIVITY TO TOUCH	Yes	29	11.3%
	No	228	88.7%
	Total	257	100.0%
DMUSIC SHARING	Yes	7	2.7%
	No	250	97.3%
	Total	257	100.0%
DDURABLE ACCESSORIES	Yes	9	3.5%
	No	248	96.5%
	Total	257	100.0%
DWATERPROOF EFFECT	Yes	23	8.9%
	No	234	91.1%
	Total	257	100.0%
DSTRONG BODY PROTECTION	Yes	20	7.8%
	No	237	92.2%
	Total	257	100.0%
DHARDWARE AND SOFTWARE INTERFACES	Yes	20	7.8%
	No	237	92.2%
	Total	257	100.0%
DSTRONG SCREEN	Yes	29	11.3%
	No	228	88.7%
	Total	257	100.0%
D PROCESSING SPEED	Yes	25	9.7%
	No	232	90.3%
	Total	257	100.0%
DCOMPLEXITY OF APPS	Yes	25	9.7%
	No	232	90.3%
	Total	257	100.0%
DMULTIFUNCTION	Yes	29	11.3%
	No	228	88.7%
	Total	257	100.0%
DTRACEABILITY	Yes	6	2.3%
	No	251	97.7%
	Total	257	100.0%
DMULTI-CARD PHONE	Yes	2	0.8%
	No	255	99.2%
	Total	257	100.0%
DLESS BUTTONS	Yes	3	1.2%
	No	254	98.8%

	Count	Table N%
Total	257	100.0%

The total count of responses is out of 257 students and the percentage is out of 100%. Table 4.14 above represents all the factors that students wished to see improved on their mobile phones. The first five highlighted features represent the main features that students wished to see improved on their mobile phones. In descending order, the following five are the most important features that students wished to see improved on their mobile phones; Battery power - 49.8% (n=128), Memory size - 41.2% (n=106), Camera - 40.5% (n=104), phone design - 22.6% (n=58) and Audio capacity - 18.3% (n=47). The least favoured features was Multi-card-0.8% (n=2) and Less (or fewer) buttons 1.2% (n=3) as highlighted in Table 4.14 above.

4.3.5 PART E

Part E of the questionnaire aimed at revealing whether students were satisfied with their current choice of mobile phones. Custom tables were used to analyse and show the frequencies with which students were satisfied with their mobile phones. A graph was used as an illustration of the results obtained from the custom table. There were 251 (97.7%) valid responses and 6 (2.3%) missing variables. Figure 4.10 below presents the percentages of valid responses. From the pie chart below, 20% of the students strongly agreed that they were satisfied with their mobile phones. 54% of students agreed that they were satisfied with their mobile phones. 13% of the students neither agreed nor disagreed with being satisfied with their mobile phones. 8% of the students disagreed with being satisfied with their phone. 5% of the students strongly disagreed with being satisfied with their mobile phone. Hence, majority of the students are satisfied with their mobile phones. This shows that regardless of various factors affecting the students' choices and satisfaction, majority of the students are still pleased with their current mobile phones.

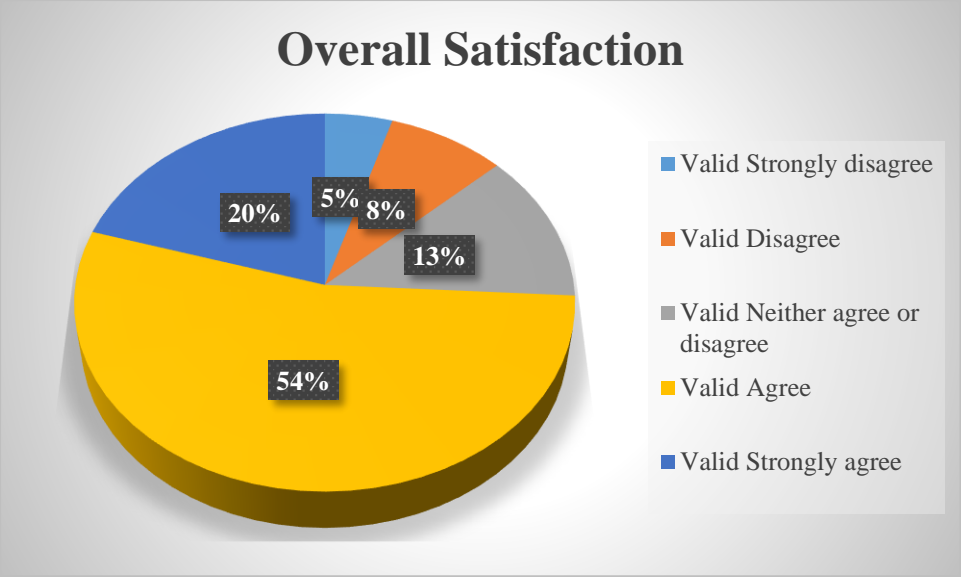


Figure 4.10: Pie chart illustration of overall satisfaction of students with their mobile phones.

4.3.6 PART F

Below are the other factors from the questionnaire that students described and considered to influence their choices (Part A) and satisfaction (Part B) of mobile phones as well as the features (Part C) they consider when purchasing a mobile phone. Several variables were mentioned in each part but some more repetitive than others. In Part A, thirty variables were mentioned. Battery life and camera quality were each mentioned three times. Memory size, screen resolution, colour, processor and compatibility across mobile phones were each mentioned twice. All these variables can be grouped as product features. Therefore, these product features play a significant role in influencing the choice of the mobile phone. In Part B, nine variables that contributed to satisfaction were mentioned, none of which were repetitive. In Part C, seven variables were mentioned. The security feature was repeated thrice. Therefore, students consider the security feature as an important feature when purchasing a mobile phone. A custom table and NVivo were used to analyze the mentioned features.

4.3.6.1 Custom Table

Table 4.15: Custom Table presenting other (additional) factors regarding choice (Part A), satisfaction (Part B) and features (Part C) of mobile phones and the corresponding Count.

		Count
Satisfaction	Ability to Switch on	1
	Fast	
	Downloading Capacity	1

	Duo-Sim Cards	1
	Operating System	1
	Processor	1
	Screen Resolution, High Pixels	1
	User friendly	1
	Water Resistance	1
Choice Contributors	Appearance, Colour and Screen Clarity	1
	Battery Life	2
	Battery Life and Screen Resolution	1
	Browsing Speed	1
	Camera Quality and Applications	1
	Camera Resolution	1
	Capacity of Memory, Photos, Videos	1
	Colour	1
	Compatibility across Phone Brands	2
	Duration of Phone being a Trend	1
	High Service Delivery Capacity	1
	Maintenance Costs	1
	Processor and Graphics	1
	Processor, Storage Capacity, Camera Quality, 4k Video Capability, and Pixel Density	1
	Production Origin of Phone	1
	Security Protection from Spyware (Banking)	1
	Size of Phone	1

Features When Purchasing mobile phones	Data Restriction Options	1
	Durability of Screen	1
	File security features	1
	Interface	1
	Regency of Operating System	1
	Security Protection	1
	Security, finger scan	1

Table 4.15 above shows the counts of additional factors and features that students considered important. Nine variables that contributed to satisfaction were mentioned, none of which were repetitive. Thirty variables that contribute to choice of mobile phones were mentioned, battery life, camera quality, memory size, screen resolution, colour, processor and compatibility across mobile phones were each mentioned repetitively. Seven additional features were mentioned that students seek in purchasing mobile phones. The security feature was the main repeated feature. Hence showing that the obtained variables also influence the purchase choice, satisfaction and selection of features students seek on mobile phones.

4.3.6.2 NVivo

Below are illustrations of Nvivo that were used to analyse additional factors that students mentioned that affected the choice and satisfaction of mobile phones. Furthermore, it was used to analyse additional features that students seek when purchasing mobile phones. Various important factors pertaining to choice, satisfaction and features have been obtained as illustrated below.

Other Contributors to Satisfaction



Figure 4.11: An illustration of other factors affecting satisfaction of mobile phones

The illustration above shows the various additional features that contribute to the satisfaction of students' mobile phones. The factors in larger font represent the most important factors (Bazeley & Jackson, 2013). From the above figure, screen resolution and high pixels indicated to be the most important factors.

Other Contributors to Purchase Choice of Mobile Phones



Figure 4.12: An illustration of other factors affecting choice of mobile phones

The illustration above shows the various additional features that contribute to the choice of students' mobile phones. NVivo is useful in analysing unstructured data. From the above figure,

camera, screen resolution, battery quality, memory, colour, processor and protection indicated to be the most important factors.

Other Features Students seek



Figure 4.13: An illustration of other features students seek

The illustration above shows the various additional features that students seek when purchasing mobile phones. From the figure above, security features indicated to be the most important additional feature.

4.4 Summary of Findings

Table 4.16: Summary Table of Findings obtained

OBJECTIVES	KEY FACTORS						Other Factors
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	
To reveal key factors that lead to student choice of the type of mobile phone.	Marketing elements	Social factors	Design of the mobile phone	Durability & portability	Brand name	Cost	Camera, Screen resolution, Battery quality, Memory, Colour, Processor and Protection
To determine key factors responsible for consumer satisfaction pertaining to mobile phones	Internal attributes	External attributes	Performance attributes	Style	Small mobile phones	Cost	Screen resolution and high pixels
To determine the features students, seek in purchasing mobile phones	Size of the mobile phone	Output attributes of the mobile phone	The build of the mobile phone	Basic model	Technology features	Generation of the mobile phone	Security features
To determine the features that need to be improved on mobile phones.	Battery power	Memory size	Camera	Phone design	Audio capacity		

The above represents the findings of the study. It presents the factors obtained with the corresponding research objectives.

4.5 Conclusion

This chapter presented and interpreted the empirical results of the study. The results from the descriptive analysis, SPSS, and NVivo results were illustrated and translated accordingly with objectives of the study. UKZN, Pietermaritzburg students exhibited a unique set of results to the previous studies. The variation in the results obtained indicate the distinctiveness of the student segment. The next chapter discusses the findings obtained.

CHAPTER FIVE

DISCUSSION OF RESEARCH FINDINGS

5.1 Introduction

The previous chapter presented and interpreted the empirical results of the study. This chapter discusses the results obtained from Chapter Four, Section II, in line with the literature and the research objectives. Discussions of the findings of the study specifically pertaining to each study objective are discussed hereunder.

5.2 Research Objective 1

To reveal key factors that lead to student choice of the type of mobile phone.

The main purpose of objective one was to understand the factors that influence the choice of mobile phones of students at the University of KwaZulu-Natal, Pietermaritzburg campus. From the descriptive analysis results, product features and design was the main influencing factor of the choice of mobile phones of students. This shows that the students were more likely to choose a mobile phone based on its design and innovative features as compared to family recommendations and factors. The exploratory factor analysis revealed that students from the University of KwaZulu-Natal, Pietermaritzburg campus are influenced by six key factors when it comes to their choices of mobile phones. Namely: marketing elements, social factors, the design of the mobile phone, durability and portability, brand name and cost. The NVivo analysis revealed that battery life, camera quality, memory size, screen resolution, colour, processor and protection as additional factors that influenced their choice of mobile phones. Based on the literature presented in Chapter Two, the results revealed are consistent with some surveys previously conducted.

In the study by Sata (2013) in Hawassa town, the results of the consumers showed six factors influencing the buying behaviour of mobile phones. These were “price, social group, product features, brand name, durability and after sales services” (Sata, 2013: 103). The similarity in the results shows that consumers of Hawassa and Pietermaritzburg students are influenced by common factors, which are mobile phone design, social group, brand name and durability. The Consumer Decision Model by Engel, Kollat, and Blackwell also points out the social class as an influencing factor of the decision process (Bray, 2008). This confirms that external influences impact consumers’ purchase decisions. The results from Karjaluoto et al. (2005) on the study regarding factors affecting consumer choice of mobile phones of Finnish students showed that the major influences were price, brand, interface, and properties of the phone were the most influential

factors affecting the actual choice between mobile brands. Price, design, and brand name are the common influencing factors among Finnish students and Pietermaritzburg students. An empirical study of by Das (2012) on factors influencing the buying behaviour of youth consumers towards mobile handsets in Odisha showed that advertisement, a wide variety of usage, low maintenance cost, brand name, newly added features, discounted price, and free accessories. The similarity with the results obtained from the Pietermaritzburg students points towards price and brand name. Quality, brand image and recommendations by family and friends are the key variables that influence the brand choice of youths for mobile handset purchase in Peshawar Pakistan (Shahzad & Sobia, 2013). Therefore, social factor and mobile phone brand play are common factors in these two studies. In a study by Saeed et al. (2012) on the mobile phone buying behavior of rural and urban consumers in Pakistan. The findings indicated that rural consumers focused on the functions of the mobile phone and price, on the other hand, urban consumers focused on the style of mobile phone and brand image of the mobile phone (Saeed *et al.*, 2012). The similarity in the findings points price and mobile phone brand as influencing factors. The study by Yaakop and Mokhlis (2012) on consumer choice criteria in mobile phone selection by Malaysian university students revealed that innovative features, image, price, personal recommendation, durability and portable aspects, media influence and post-sales service influence the choice of the students. The three most significant factors that influenced students' choice of mobile phones were: innovative features, recommendation, and price. Durability, portability, and price are the common factors among Pietermaritzburg and Malaysian university students.

Besides common factors presented from the literature, Pietermaritzburg students' results exhibited a unique set of results to the previous studies. The variation in the results obtained indicate the distinctiveness of this segment. The students regard product features and design as an important factor when deciding on purchasing a mobile phone. Additional factors mentioned by students presented in Part F point towards elements of the mobile phone that made up the design of the mobile phone. The marketing elements is the most influencing factor of their choice of mobile phones. Marketing elements play a major role as an initial stimulus (Blackwell *et al.*, 2006) in attracting customers to a particular brand or product (Garg *et al.*, 2016). Mobile phone companies in the global scenario strive to incorporate marketing elements in building their brands to achieve high levels of customer satisfaction. The proper integration of the seven P's elements creates a

path for firms to reach their target audiences. This includes: producing the product the customers need, selling the product at a reasonable price, supply the product to convenient outlets, inform customers of the product, train personnel to deal with customers, ensure smooth sales service delivery process and attractive business environment (Nair, 2013).

How mobile phones are promoted and the process of sale attract students to purchase particular handsets. The price of the mobile phones was the sixth influencing factor of choice of the University of KwaZulu-Natal, Pietermaritzburg campus students. However, price remains a common and sensitive factor across many studies that plays a major role in influencing the choice of mobile phones users.

5.3 Research Objective 2

To determine key factors responsible for consumer satisfaction pertaining to mobile phones

The main purpose of objective two was to understand the factors that influence the satisfaction of mobile phones of students at the University of KwaZulu-Natal, Pietermaritzburg campus. From the descriptive analysis results, overall performance was the main influencing factor affecting the satisfaction of mobile phones of students. This shows that the students were more likely to choose a mobile phone based on the general functionality of the device as compared to a small-sized mobile phone and factors. The exploratory factor analysis revealed that students from the University of KwaZulu-Natal, Pietermaritzburg campus are influenced by six key factors when it comes to the satisfaction of mobile phones. Namely; internal attributes, external attributes, performance attributes, style, small mobile phones, and cost. Results obtained from NVivo indicated that screen resolution and high pixels were the additional factors that influenced their satisfaction of mobile phones. Based on the literature presented in chapter 2, the factors revealed are similar with some studies conducted previously.

Heshmati and Khayat (2012) conducted a study on determinants of mobile phone customer satisfaction in the Kurdistan region. The results revealed colour, user-friendliness, multi-media, battery, and technology were the main factors that determined the satisfaction of Kurdish users. The common factor is user-friendliness concerning the additional factors students mentioned in Part F. The study by Yaakop and Mokhlis (2012) on Malaysian university students revealed that price, memory size, and portability of the mobile phone contributed to the satisfaction of students. The price of the mobile phone is a common factor among the students of Malaysia University and students of the University of KwaZulu-Natal, Pietermaritzburg campus. The study by Jung and

Hong (2010) on the expectations and actual satisfaction about mobile handsets before and after purchase revealed that size and shape, design, overall performance, durability, and convenience play a major role in the satisfaction of Korean mobile users. Overall performance and size of the mobile phone are similar factors that have come up in these two studies. Results from the study by Ling et al. (2006) revealed advanced mobile features and mobile phone design led to the satisfaction of college students of America. The top three impelling advanced features were; colour screen, voice-activated dialing, and internet browsing (Ling *et al.*, 2006). The results show a contrast between factors that the USA college students and Pietermaritzburg deem satisfactory.

From the scrutiny of the literature, few factors have proved commonality among the studies regarding what mobile phone users favoured as satisfactory. Pietermaritzburg students' results exhibited an exceptional set of results to the previous studies. The overall performance of a mobile phone is considered to contribute to the satisfaction of students. Furthermore, the internal attributes of the mobile phone mainly contributed to the satisfaction of the students. Students want to possess mobile phones that are portable, not easily hacked, that can produce maximum clear volume, non-fragile and can perform advanced functions. External attributes were the second factor that students considered. Students were in favour of cameras with higher pixels, the large storage capacity of the memory and large display and phone size. The general performance of the mobile phone is also an important aspect to students. Students want stylish mobile phones to match their individual personalities. Price retains to be a common factor impacting the satisfaction of not only students but also other segments. The variation of the results obtained in this study as compared to previous research studies indicate the uniqueness of mobile phone markets. Furthermore, the results imply that customers have different needs pertaining to satisfaction and it is imperative for marketers to understand these needs.

According to the Consumer Decision Model by Engel, Kollat, and Blackwell (2006), satisfied consumers engage in repeated purchases. Part E inquired of the overall satisfaction of the students concerning their mobile phones. Over half of the students reported to being satisfied with their mobile phones. Few students reported that they were completely dissatisfied by their mobile phones. Hence, the dissatisfied students are likely to re-engage in external search for better mobile phones.

5.4 Research Objective 3

To determine the features students, seek in purchasing mobile phones

The main purpose of objective three was to understand the features that the students seek when purchasing mobile phones. From the descriptive analysis results, battery power was the main influencing feature of students' purchase of mobile phones. This shows that the students were more likely to purchase a mobile phone that had a long-lasting battery as compared to multi-card hybrid and other features. The exploratory factor analysis revealed that students from the University of KwaZulu-Natal, Pietermaritzburg campus are influenced by six factors when it comes to the satisfaction of mobile phones. Namely: Size of the mobile phone, output attributes of the mobile phone, the build/make of the mobile phone, basic model, technology features and generation of the mobile phone. Results obtained from NVivo indicated that security features of the mobile phone was the main additional factor that students seek when purchasing mobile phones. Based on the literature presented in Chapter Two, the features revealed are similar with some studies conducted previously.

Consumer preferences regarding selected mobile handsets in Pune city showed that students seek to purchase mobile phones that had the quality sound capacity, camera, QWERTY keyboards and could hold double SIM cards (Anbuhle, 2013). The only common features in these studies are; sound and camera, which make up elements of the output attributes of the mobile phone. In the study by Ling et al. (2006) on diversified users' satisfaction with advanced mobile phone features showed that college students of USA purchased mobile phones based on the following features: camera, colour screen, voice-activated dialing, internet browsing, and wireless connectivity, Bluetooth and infrared (Ling *et al.*, 2006). Moreover, previous studies also show that screen display (Hassan, 2013), size of the mobile phone (Mark & Sharples, 2009), memory, interfaces, battery (Malviya *et al.*, 2013) and waterproof (Sujata *et al.*, 2016) are features that consumers seek when purchasing a mobile phone. Battery and size of the mobile phone are common features shared by the studies.

Besides common features obtained from the literature, Pietermaritzburg students' results exhibited a distinctive set of results to the previous studies. Battery power was the main influencing feature for students' when purchasing mobile phones. The six factors obtained from the exploratory factor analysis revealed the main features students seek when purchasing mobile phones. The size of the mobile phone was the first factor the students seek when purchasing a mobile phone. Hence, an

important feature to students. With most students indicating to like small sized mobile phones. Output attributes of the mobile phone are also important as students pay attention to details such as camera quality, audio capacity and memory size. The build/make of the mobile phone which entails aspects of texture, hardware and software interfaces, delicacy and waterproof effect are important to students. Basic model entails simplicity, multi-card hybrid, weight, and multi-mode. The basic model indicates how simple and easy to operate a mobile phone is. Technology features entail portable charging adapter, vulnerability to viruses and web browsing and the sixth factor being a generation of the mobile phone, which regarded the generation making of the wireless communication network technology. The generation of the mobile phone is an important factor as it determines the processing speed of the mobile phone. Therefore, students of the University of KwaZulu-Natal, Pietermaritzburg campus were likely to purchase mobile phones based on the features revealed above.

5.5 Research Objective 4

To determine the features that need to be improved on mobile phones

The main purpose of objective four was to reveal the features that the students wish to see improved on their mobile phones in descending order. Results from the custom table revealed that battery power was the leading feature that students wished to see improved. Other top features included; memory size, camera, phone design and audio capacity. Based on the literature presented in chapter 2, the features revealed are similar with some studies conducted previously.

Vijayakumar (2013) results from HTC users suggested several issues be improved on the mobile phone similar to the features in this study. Namely; sound quality, picture quality, and storage features. Results by Paralimadevi (2016) regarding Sony mobile phones revealed that quality and versions of Sony mobile phones needed to be improved. Furthermore, sound, quality of the pictures, memory size needed improvement. The study by Maharaj and Paramasur (2011) in South Africa showed that the design of the mobile phone is vital aspect for improvement. These results indicate consistency with results of Pietermaritzburg students. According to Sujata et al. (2016), OS version, battery, RAM, memory card slot, interfaces needed improvement. Additionally, applications invented should be secure, compatible with phones and should adapt to change easily. Memory, battery, and interfaces are the common features between these studies. Results by Parui (2015) revealed common features such as dual sim card mobile phones, camera quality, battery

life quality, dust, and waterproof protection. Contrary to the similarities, according to Gandhimathi and Parameshwari (2015) and Sathya and Varunapriya (2015) results revealed battery back-up needed improvement. Further results from Parui (2015) that were different to this study showed that Samsung should provide 16 or 32GB of internal memory and 64GB or 128GB of expandable storage on their smartphones, provide faster upgrade system than its competitors increase product warranty period, provide qual crome processor to increase performance of the mobile phone, manufacture more innovative and attractive models and make more variety models/versions of Samsung compared to its competitors. Christinal and Vinoutha (2014) study revealed that improvement should be focused on value-added features and packaging of the mobile phone. A study by Lee (2007) revealed improvements for the elderly group included; Advancement the tangible QWERTY keyboard – more space should be created between buttons; button sizes and fonts should be increased and the background lighting on the buttons brightened. The display on the screen should be improved from screen size, screen resolution, font, screen contrast, brightness, and screen backlight period (Lee, 2007). Screen size is a common feature to the students of Pietermaritzburg campus.

Students like other customers, want mobile phones that can last on battery for longer periods without frequent charging. Furthermore, students want to own mobile phones that can large data without the need to delete content to save storage space. Mobile phone cameras that take quality pictures attract students. The ability to produce quality audio and the overall phone design are features that students are drawn to when it comes to purchasing mobile phones. The improvement of such features implies possible satisfaction of mobile phones in the future. The results obtained from the students of the University of KwaZulu-Natal, Pietermaritzburg campus indicates a similarity in a quest of features among many mobile phone users according to previous studies.

5.6 Conclusion

This chapter discussed in detail the empirical results obtained in Chapter Four. The discussion explained the findings obtained in relation to the literature presented in Chapter Two. Furthermore, the discussions showed the uniqueness of the students' mobile phone segment and aspects they considered important. The following chapter will summarise, conclude, and provide recommendations on the findings and further studies.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

Research findings of the study were discussed in the previous chapter. This chapter reports the summary and highlights of the study limitations, anticipated research contributions and recommendations for further research studies.

6.2 Conclusion

The main purpose of this study was to investigate the underlying key factors that influenced the choice and satisfaction of mobile phones. Based on the discussions above, below are the conclusions based on each objective of the study.

Objective 1

The main aim of objective one was to reveal the key factors that affected the choice of the type of mobile phone. The Pietermaritzburg students of the University of KwaZulu-Natal indicated product features and design as the main influencing factor of the choice of the type of mobile phone. The features built-in in a mobile phone are the most important factor which are well-thought-out by the students while choosing a mobile phone. This is evident are important features that majorly influence the choice of the students. However, not all mobile features are equally important (Sata, 2013).

Secondly, results from the exploratory factor analysis narrowed down six key factors that influenced the choice of the type of mobile phone of students. Namely; marketing elements, social factors, the design of the mobile phone, durability and portability, brand name and cost. Marketing elements are the dominating factor affecting the choice of the type of mobile phone. The creation of awareness through marketing elements attracts customers to a particular brand and/or product. Lack of brand awareness, customers cannot or will not purchase the brand, because they are basically not aware of the brand's existence (Garg *et al.*, 2016). The marketing elements in this study were; product features and design, after sales services, warranty, promotions, and media reviews. Social factors also played a major role in students' choices of mobile phones. It is evident that consumers tend to rely on their reference circles i.e. family and friends for advice relating to product choices (Kotler *et al.*, 2010). Advanced versions or models of mobile phones attract

consumers as they expect upgrades from previous selections (Parui, 2015). Likewise, the unique design of the mobile phone influenced the students' type of mobile phone. Students want to purchase mobile phones that can last over long periods of time without high-cost maintenance. Durability and portability were the fourth influencing factor of students' choice. Brand awareness and product-related elements build and strengthen the relationship between the customer and the brand. The recall of a brand or its knowledge can be significant among a small group of alternatives at the moment of choosing and purchasing products (Garg *et al.*, 2016). Students exhibited that brand name played also major role in the type of mobile phone they chose. The price was the sixth influential factor to the students. This indicates that price still plays a role in the choosing of products among alternatives.

Objective 2

The main aim of objective two was to determine key factors responsible for students' satisfaction pertaining to mobile phones. The Pietermaritzburg students of the University of KwaZulu-Natal indicated overall performance as the main influencing factor affecting the satisfaction of mobile phones. The general functionality of the mobile phone increases the satisfaction level of students. Additional factors mentioned also contribute to the satisfaction of students' mobile phones.

Furthermore, the exploratory factor analysis revealed six key factors that influence the satisfaction of mobile phones of students at the University of KwaZulu-Natal, Pietermaritzburg campus. These were; internal attributes, external attributes, performance attributes, style, small mobile phones, and cost. Internal attributes are the dominating factor responsible for students' satisfaction pertaining to mobile phones. "The product or service features are only valuable if the customers consider the features as valuable and beneficial according to their needs" (Kauffman foundation, 2015). Students consider not only the exterior features of the mobile phone but also functionality the core features are regarded as important when it comes to satisfaction. Elements that enable the running and operation of the mobile phone performance also influenced the satisfaction of students. The style or appearance of the mobile phone also influenced the satisfaction of the students. The students are satisfied by small-sized mobile phones that are easy to handle and can fit their pockets. The price of the mobile phone still a consistent factor in affecting the satisfaction of mobile phones. Overall, over half the students indicated to agree on being satisfied with their mobile phones.

Objective 3

The main aim of objective three was to determine the features students, seek in purchasing mobile phones. The Pietermaritzburg students of the University of KwaZulu-Natal indicated battery power was the main influencing feature of students' purchase of mobile phones. This shows that the students were more likely to purchase a mobile phone that had a long-lasting battery.

Results from the exploratory factor analysis narrowed down six factors that students seek when purchasing mobile phones. Namely; the size of the mobile phone, output attributes of the mobile phone, the build/make of the mobile phone, basic model, technology features and generation of the mobile phone. The mobile phone size may be large or small, depending on the brand and version of the mobile phone (Mack & Sharples, 2009). It also is dependent on the preference of the students or users. The features that produce an output upon special command also influence students to purchase decision of the mobile phone. The advancement of wireless communication technology facilitates the fast adoption of smartphones (Jain *et al.*, 2015). With the increase in innovation and technical advancement, technological features and generation of the mobile phone are important features customers seek on their mobile phones. An important additional factor that students seek is the security feature which prevents hacking and viruses in the mobile phone. The size of the mobile phone is the dominant factor that students seek in purchasing mobile phones.

Objective 4

The main aim of objective four was to determine the features students wished to see improved on their mobile phones. The results from the custom table revealed five main features that students showed most concern for. In descending order these are; battery, memory size, camera, phone design and audio capacity. Long-lasting batteries are basically what the students mostly seek and with reduced time spent on charging the mobile phones (Sujata *et al.*, 2016). With the increase in the need to capture every moment with quality cameras by the youth (Shahzad and Sobia, 2013), students want to own mobile phones with cameras with high resolution and mobile phones with the ability to store a large amount of data. The design of the mobile phone is a major attraction to students and the mobile phones with powerful sound capacity.

6.3 Recommendations

Today customers are more connected through their mobile phones than ever before. Based on objective one, South African mobile phone manufacturers need to revise their marketing communication strategies especially in dealing with a vibrant segment such as students. The social circle around this segment influences their purchase decisions. Mobile brands should work to create positive word-of-mouth about their products, which will help them attract more customers. Students are drawn to brand names that overshadow the rest of the mobile brands with their creative advertisement campaigns. It is important that the competitive marketing strategies be created in a manner that draws attention to this particular segment. Furthermore, manufacturers should improve their brand image and quality of their mobile phones by producing durable devices as well as cost friendly devices. The design is also an important element that manufacturers should work on. Creating unique and stylish designs of mobile phones per customers' needs will attract customers and increase company sales. Thus, the product design is a vastly significant factor in the achievement of the mobile brand.

Based on objective two, with regards to customer satisfaction, manufacturers need to focus on what customers want instead of meeting target sales. It is important for manufacturers to focus on the improvement of not only extrinsic but also intrinsic features of the mobile phone. Moreover, the performance of the mobile phone is a critical attribute to customers' satisfaction. With technological advancement, manufacturers should produce handsets that can perform maximum functions for users' various needs. Furthermore, the price of mobile phones should be marked at affordable rates to increase the satisfaction levels of customers.

Based on objective three, in today's intensely competitive global environment, it is very imperative for the manufacturers to determine and work out the features that are crucial to the customers' mobile phone. With the constant altering in customer tastes and preferences, as well as trends, manufacturers ought to keep abreast with these changes especially in trying to retain their market shares and in dealing with their competitors.

Based on objective four, customers are fascinated with fresher technology and will change from one mobile phone or mobile phone brand to another in search of improved technology. Mobile phone companies should conduct intervallic surveys to assist in recognising newer technological features and determine which features to incorporate to its products. Furthermore, by establishing

the combination of features that correspond to the present trends and consumer needs, mobile companies are more likely to attract more customers and increase their market shares.

In summary, in this era of advanced technology, consumers are fast adopters of products in search of things that meet their day-to-day needs. Hence, consumer tastes and preferences keep changing with the aid of internal and external influences. These findings may not be applicable in all instances. Studies regarding their choice influences and satisfaction should thus be undertaken occasionally to determine shifting consumer mobile phone needs over time. Carrying out these surveys over time will, in turn, assist academics, mobile phone manufacturers, mobile operators, and the like to obtain valuable information and to target customers more effectively.

6.4 Scope for Future Research

The resulting potentials for further research emerged from this study:

- The survey involved mobile phones in general. Further studies can examine mobile phone brands to understand the factors influencing its users' choice and satisfaction the brands.
- The results of this study are founded entirely on the survey conducted in the University of KwaZulu-Natal, Pietermaritzburg campus and hence may not be applicable to other campuses of the University of KwaZulu-Natal or other University locations or other selected samples. This study should be carried out on a broader scale to account for non-student consumers from other cities. In forthcoming research studies, the repetition of this study in other provinces can uncover unknown similarities and differences.
- The sample size in this survey was comparatively small. The findings are bound to vary with those of a bigger sample size. A bigger sample size would generate further vast results.

6.5 Limitations of the Study

There were some limitations pertaining to this research study. These are;

- Previous studies regarding this particular topic were limited in the South African context hence many references were based on the studies conducted abroad.
- A non-probability sampling technique was used to collect data i.e. convenience sampling to select respondents due to time constraint. Therefore, results obtained cannot be generalised to all students' population.
- The results were limited as the sample selected was limited to students who owned mobile phones and who were registered to the University of KwaZulu-Natal, Pietermaritzburg

campus. Hence, overall interpretations concerning South African university students would be subjective. However, the results obtained can help comprehend the present students' trends.

6.6 Conclusion

This chapter presented the sum-up of the study. The chapter drew conclusions based on each objective presented in relation to the findings. Recommendations for further studies were provided. Furthermore, the setbacks that were encountered during the research period were also outlined.

REFERENCES

- Adegbola, O. A. (2010). *Customer Satisfaction in Business Organizations a Case Study of Prisma, a Subsidiary of Kpo*. Undergraduate. Central Ostrobothnia University of Applied Sciences.
- Agar, J. (2013). *Constant Touch: A Global History of the Mobile Phone*. Icon Books Ltd.
- Ahmed, S., and Moosavi, Z. (2013). *Factors Influencing the Cell Phone Brand Loyalty of Swedish Generation Y*. Masters. The Mälardalen University.
- Akarte, A., and Amishi, A. (2012). Indian Telecom Market In Transitive Economy: A Comparative Study on Buying Behaviour of Rural and Urban Buyers on Mobile Phone. *Zenith International Journal of Business Economics & Management Research*. Vol. 2(6), pp.14-26.
- Alshurideh, D. (2013). A Qualitative Analysis of Consumer Repeat Purchase Behaviour in the UK Mobile Phone Market. *Journal of Management Research*, Vol. 6(1), p.109.
- Alshurideh, M., Bataineh, A., Alkurdi, B. and Alasmr, N. (2015). Factors Affect Mobile Phone Brand Choices – Studying the Case of Jordan Universities Students. *IBR*, Vol. 8(3).
- Anbhule, H.A. (2013). A Critical Study of Consumer Preferences Regarding Selected Mobile Handsets in Pune City. *Indian Journal of Applied Research*, Vol. 3(3), pp. 251-253.
- Ashfaq, H., and Samreen, L. (2015). Factors Leading to Brand Switching in Cellular Phones: A Case of Pakistan. *Journal of Marketing and Consumer Research*, Vol. 17(10), pp.32-40.
- Babu, M. G., Vani, G., and Panchanatham, N. (2010). *Consumer Buying Behaviour*. Global Vision Publishing House.
- Babutsidze, Z. (2007). *How Do Consumers Make Choices? A Summary of Evidence from Marketing and Psychology*. 5th ed. [eBook] Maastricht: United Nations University, pp.5-13. Available at: <http://www.merit.unu.edu> [Accessed 30 Sep. 2016].
- Balagopal, N., (2014). *Consumer Purchasing & Behavior: A Consideration of the Combined Influence of Culture & Conformity on Consumer Decisions* (Doctoral dissertation, The University of Utah).

- Ballagas, R., Borchers, J., Rohs, M., and Sheridan, J. G. (2006). The Smart Phone: A Ubiquitous Input Device. *IEEE Pervasive Computing*, Vol. 5(1), pp. 70-77.
- Battaglia, M. (2011). *Encyclopedia Survey of Research Methods*. 1st ed. [eBook] Sage, pp.523-526. Available at: http://www.sagepub.com/chambliss4e/study/chapter/encyc_pdfs/5.2_Nonprobability%20Sampling.pdf [Accessed 9 Jun. 2015].
- Bayraktar, E., Tatoglu, E., Turkyilmaz, A., Delen, D. and Zaim, S. (2012). Measuring the efficiency of customer satisfaction and loyalty for mobile phone brands with DEA. *Expert Systems with Applications*, Vol. 39(1), pp.99-106.
- Bazeley, P. and Jackson, K. eds., (2013). *Qualitative Data Analysis with Nvivo*. Sage Publications Limited. Vancouver
- Beger, G. and Sinha, A. (2012). *South African Mobile Generation: Study on South African Young People on Mobiles*. 1st ed. [eBook] New York: UNICEF. Available at: http://www.unicef.org/southafrica/SAF_resources_mobilegeneration.pdf [Accessed 16 Jun. 2015].
- Belch, G. E., Belch, M. A., Kerr, Gayle, F., and Powell, I. (2014) *Advertising: An Integrated Marketing Communication Perspective*. McGraw-Hill Education, North Ryde, N.S.W.
- Beresford, B., and Sloper, P. (2008). *Understanding the dynamics of decision-making and choice: A scoping study of key psychological theories to inform the design and analysis of the Panel Study*. York: Social Policy Research Unit, University of York.
- Blackwell, R. D., Miniard, P. W., and Engel, J. F. (2006) *Consumer Behaviour*. 10th ed, South-Western
- Bluman, A. (2013). *Elementary statistics*. 6th ed, New York, NY: McGraw-Hill.
- Bolton, R.N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., Komarova Loureiro, Y. and Solnet, D., (2013). Understanding Generation Y and their use of Social Media: A Review and Research Agenda. *Journal of Service Management*, Vol. 24(3), pp.245-267.

- Bray, J. (2008). *Consumer Behavior Theory: Approaches and Models*. 1st ed. [eBook] Bournemouth University. Available at: [http://eprints.bournemouth.ac.uk/10107/1/Consumer_Behaviour_Theory_-_Approaches_1995 %26_Models.pdf](http://eprints.bournemouth.ac.uk/10107/1/Consumer_Behaviour_Theory_-_Approaches_1995%26_Models.pdf) [Accessed 6 Jul. 2015].
- Bryman, A., and Bell, E. (2015). *Business research methods*. Oxford University Press, USA.
- Butt, M. and Cyril de Run, E. (2009). Modeling Consumer Satisfaction in Cellular Phone Services. *Jurnal Kemanusiaan*. [online] Available at: <http://www.management.utm.my/download/jurnal-kemanusiaan.html> [Accessed 2 Jul. 2015].
- Cadet, T., Larribeau, S. and Pénard, T. (2012). Network Effects, Consumer Satisfaction, and Recommendation on the Mobile Phone Market. *SSRN Journal*.
- Cengiz, E., (2010). Measuring customer satisfaction: Must or Not? *Deniz Bilimleri ve Mühendisliği Dergisi*, Vol. 6(2).
- Chai, K.H., Ding, Y. and Xing, Y., (2009). Quality and Customer Satisfaction Spillovers in the Mobile Phone Industry. *Service Science*, Vol. 1(2), pp.93-106.
- Christinal, A. and Vinoutha, V. (2014). A Study on Customer Satisfaction of Nokia Mobile in Tiruchirappalli District, Tamilnadu. *Global Journal of Commerce and Management Perspective*, Vol. 3(1), pp. 55-60.
- Churchill, G.A, Brown, T.J, and Suter, T.A. (2010). *Basic Marketing Research*. 7th ed, Cengage learning, Southwestern.
- Dadzie, A. (2011). Brand Preference for Mobile Phone Operator Services in the Cape Coast Metropolis, *International Journal of Business and Management*, Vol. 6(11), pp.190-205.
- Das, D. (2012). An Empirical Study of Factors Influencing Buying Behavior of Youth Consumers Towards Mobile Handsets: A Case Study in Coastal Districts of Odisha. *Asian Journal of Research in Business Economics and Management*, Vol. 2(4), pp. 68-82.

- Dave, A. C., and Brahmabhatt, M. (2015). Factors Affecting the Choice of Mobile Phones: A Factor Analysis Based on Pilot Study.
- Dib, H. and Al-Msallam, S. (2015). The Effects of the Determinants of Customer Satisfaction on Brand Loyalty. *Journal of Research in Business and Management*, [online] Vol 3(3), pp.1-12. Available at: <http://www.questjournals.org> [Accessed 8 Jul. 2016].
- Dziwornu, R. K. (2013). Factors Affecting Mobile Phone Purchase in the Greater Accra Region of Ghana: A Binary Logit Model Approach. *International Journal of Marketing Studies*, Vol. 5(6), 151.
- Field, A. P., Trickey, D., Siddaway, A. P., Meiser-Stedman, R. and Serpell, L. (2012). Factor Analysis using SPSS. *Clinical psychology review*, Vol. 32(2), pp. 122-138.
- Frenkiel, R. (no date). *A Brief History of Mobile Communications*.
- Gajjar, D. N. (2013). Factors affecting Consumer Behavior. *International Journal of Research in Humanities and Social Sciences*, Vol. 1(2), pp. 10-15.
- Gallup (2015). Influence of Social Media on Purchase Decisions. *State of the American Consumer: Insights for Business Leaders*. [Online] Gallup. Available at: <http://www.gallup.com/opinion/gallup/173942/gallup-examines-state-american-consumer.aspx> [Accessed 21 Oct. 2016].
- Gandhimathi, S. and Parameshwari, S. (2015). A Study on Customers' Satisfaction towards Micromax Mobile Phone with Special Reference in Coimbatore City. *International Journal of Management and Commerce Innovations*, Vol. 2(2), pp. 601-605.
- Garg, S. A., Singh, H., and De, K. K. (2016). Direct and Indirect Effects of Marketing Mix Elements on Satisfaction. *Academy of Marketing Studies Journal*, Vol. 20(1), p. 53.
- Gerber, S. B., and Finn, K. V. (2013). *Using SPSS for Windows: Data analysis and graphics*. Springer.

- Giovannini, C.J., Ferreira, J.B., Silva, J.F.D. and Ferreira, D.B., (2015). The effects of trust transference, mobile attributes and enjoyment on mobile trust. *BAR-Brazilian Administration Review*, Vol 12(1), pp.88-108.
- Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, [online] Issue 8(4), pp.598-606. Available at: <http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf> [Accessed 16 Jun. 2015].
- Gow, G., and Smith, R. (2006). *Mobile and Wireless Communications*. Maidenhead: Open University Press.
- GSMA Intelligence, (2015). *The Mobile Economy 2015*. [online] GSMA Intelligence. Available at: <http://www.gsma.com> [Accessed 11 Nov. 2015].
- GSMA Intelligence, (2016). *The Mobile Economy 2016*. [Online] GSMA Intelligence. Available at: <http://www.gsma.com> [Accessed 09 Nov. 2016].
- GSMA Intelligence, (2017). *Definite Data and Analysis for the Mobile Industry*. [Online] GSMA Intelligence. Available at: <http://www.gsma.com> [Accessed 16 Feb. 2017].
- Han, H. (2005). *The Impact of Emotion on the Formation of Consumers' Repeat Visit Intentions in the Lodging Industry*. Masters. Kansas State University.
- Hassan, M., Hassan, S., Nawaz, M.S., and Aksel, I., (2013). Measuring Customer Satisfaction and Loyalty through Service Fairness, Service Quality, and Price Fairness Perception: An Empirical Study of Pakistan Mobile Telecommunication sector. *Science International*, Vol 25(4), pp.971-980.
- Hayde, T. P. (2011). *Integrated Consumer Decision Process Model for the Internet*. Erasmus University. Chicago
- Heale, R. and Twycross, A. (2015). *Validity and Reliability in Quantitative Studies*. Evidence-Based Nursing, 18(3), pp.66-67.
- Hox, J., and Boeije, H. (2005). Data collection, Primary vs. Secondary. In: *Encyclopedia of Social Measurement*, 1st ed. Elsevier.

- Hsu, F. M., Lin, Y. T., and Ho, T. K. (2012). Design and Implementation of an Intelligent Recommendation System for Tourist Attractions: The Integration of EBM model, Bayesian Network, and Google Maps. *Expert Systems with Applications*, Vol. 39(3), pp. 3257-3264.
- Iglesias, V. (2009). The Attribution of Service Failures: Effects on Consumer Satisfaction. *The Service Industries Journal*, [online] Vol. 29(2), pp.127-141. Available at: <http://dx.doi.org/10.1080/02642060802293088> [Accessed 6 Jul. 2016].
- ILO (2016). *Women at Work*. 1st ed. [eBook] Geneva: International Labour Office, pp.8-11. Available at: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_457317.pdf [Accessed 11 Oct. 2016].
- Incel, O. D., Kose, M., and Ersoy, C. (2013). A Review and Taxonomy of Activity Recognition on Mobile Phones. *BioNanoScience*, Vol. 3(2), pp.145-171.
- Işıklar, G., and Büyüközkan, G. (2007). Using a Multi-criteria Decision Making Approach to Evaluate Mobile Phone Alternatives. *Computer Standards & Interfaces*, Vol. 29(2), pp. 265-274.
- ITU (2013). *The World in 2013: ICT Facts and Figures*. [eBook] Geneva: Telecommunication Development Bureau. Available at: <http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2013-e.pdf> [Accessed 13 May 2015].
- ITU (2016). *ICT Facts and Figures 2016*. [Online] Geneva: Telecommunication Development Bureau. Available at: <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2016.pdf> [Accessed 09 November 2016].
- Jain, A., Rajput, A., and Dixit, S. (2015). Evolution of Wireless Communication. *International Journal of Engineering Technology Science and Research*, Vol. 2(4), pp. 88-90
- J.D. Power and Associates (2012). *Battery Life: Is That All There Is?* 1st ed. [eBook] McGraw-Hill Companies. Available at: https://www.jdpower.com/sites/default/files/Battery_Life_Is_That_All_Power_Insight.pdf [Accessed 22 Jul. 2016].

- Jalil, K., Latif, M., and Masrek, M. (2009). Looking into the 4G Features. *MASAUM Journal of Basic and Applied Sciences*, Vol. 1(2), pp. 249-253.
- Jeddi, S., Atefi, Z., Jalali, M., Poureisa, A., and Haghi, H. (2013). Consumer behavior and Consumer Buying Decision Process. *International Journal of Business and Behavioral Sciences*, [online] Vol. 3(5), pp. 20-23. Available at: http://cprenet.com/uploads/archive/IJBBS_12-1241.pdf [Accessed 10 Jul. 2015].
- Jisana, T. K. (2014). Consumer Behaviour Models: An Overview. *Sai Om Journal of Commerce & Management*, [online] Vol. 1(5), pp. 34-43. Available at: http://www.saiompublications.com/journal/index.php/ISSN-2347-7563/article/viewFile/163/pdf_24[Accessed 3 Oct. 2016].
- Jung, J. and Hong, S. (2010). A Study on the Expectations and Actual Satisfaction about Mobile Handset before and after Purchase. In: *International Multiconference on Computer Science and Information Technology*. [online] IEEE, pp.861-866. Available at: http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=5679870&tag=1 [Accessed 2 Jul. 2015].
- Kardes, F., Cronley, M. and Cline, T. (2014). *Consumer Behavior*. Cengage Learning.
- Karjaluoto, H., Karvonen, J., Kesti, M., Koivumäki, T., Manninen, M., Pakola, J., Ristola, A., and Salo, J. (2005). Factors Affecting Consumer Choice of Mobile Phones: Two Studies from Finland. *Journal of Euro Marketing*, Vol. 14(3), pp.59-82.
- Kauffman Foundation, (2015). *Product/Service Features and Benefits*. [online] Available at: <http://www.entrepreneurship.org/resource-center/productservice-features-and-benefits.aspx> [Accessed 4 Jul. 2015].
- Kaufman, L., and Rousseeuw, P. J. (2009). *Finding Groups in Data: An Introduction to Cluster Analysis* Vol. 344. John Wiley & Sons.
- Kengthon, W. (2010). *Consumer Buying Behaviour*. Munich, Germany.
- Khayyat, N., and Heshmati, A. (2012). Determinants of Mobile Phone Customer Satisfaction in The Kurdistan Region. *Journal of Knowledge Management, Economics and Information*

- Technology*, Vol. 2(3) [online]. Available at: <http://www.scientificpapers.org> [Accessed 17 Jun. 2015].
- Kotler, P., Armstrong, G. and Tait, M. (2010). *Principles of Marketing: Global and Southern African Perspectives*. Cape Town, Pearson Education South Africa.
- Kotler, P., Bowen, J.T. and Makens, J. C. (2006). *Marketing for Hospitality and Tourism*. 4th ed. Upper Saddle River, NJ: Pearson Education, Inc.
- Kotler, P., Keller, K.L., Brady, M., Goodman, M., and Hansen, T., (2009) *Marketing Management*. Harlow, UK: Pearson Education, Inc.
- Koutras, E. (2006). *The Use of Mobile Phones by Generation Y Students at two Universities in the City of Johannesburg*. Masters. University of South Africa.
- Kumar, P., and Raju, Y. (2014). Consumer Satisfaction of Mobile Users: An Empirical Study. *Indian Journal of Applied Research*, Vol. 4(10), pp.112-114.
- Kumar, S. and Chaubey, D. S. (2015). Customers Preferences of Product Attribute of Mobile Phone Handsets: A Descriptive Study. *International Journal of Emerging Research in Management & Technology*, [online] Vol 4(7), pp.246-250. Available at: http://www.ermt.net/docs/papers/Volume_4/7_July2015/V4N7-241.pdf [Accessed 22 Jul. 2016].
- Laukkanen, T., (2008). Determinants of Mobile Banking Resistance: A Preliminary Model. In *Proceedings of ANZMAC (Australian and New Zealand Marketing Academy) Conference, Sydney, Australia, December* pp. 1-3.
- Lee, Y. (2007). *Older Adults' User Experiences with Mobile Phones: Identification of User Clusters and User Requirements*. Ph.D. Virginia Polytechnic Institute and State University.
- Ling, C., Hwang, W. and Salvendy, G., (2006). Diversified users' Satisfaction with Advanced Mobile Phone Features. *Universal Access in the Information Society*, Vol 5(2), pp.239-249.

- Mack, Z. and Sharples, S. (2009). The Importance of Usability in Product Choice: A Mobile Phone Case Study, *Ergonomics*, Vol. 52(12), pp. 1514-1528.
- Maharaj, M. and Parumasur, S.B., (2011). Customer perceptions of cellular phone services, attributes and factors influencing selection/preference. *African Journal of Business Management*, Vol 5(33), p.12777-12796.
- Malasi, J.M., (2012). Influence of Product Attributes on Mobile Phone preference among university students: A Case of Undergraduate students. *International Journal of Academic Research in Economics and Management Sciences*, Vol 1(6), p.10.
- Malhotra, N., Sheth, J. and Wu, L. (2011). *Research methodology*. Los Angeles [u.a.]: Sage.
- Malviya, S., Saluja, D., Singh, M., and Singh T. A. (2013). A Study on the Factors Influencing Consumer's Purchase Decision towards Smartphones in Indore. *International Journal of Advance Research in Computer Science and Management Studies*, Vol. 1(6).
- Martin, D., Hubbard, S., O'Neill, M. and Palmer, A. (2008). The Role of Emotion in Explaining Consumer Satisfaction and Future Behavioural Intention. *Journal of Services Marketing*, Vol 22(3), pp.224 - 236.
- Miyashita, Y. (2012). *Evolution of Mobile Handsets and the Impact of Smartphones*. 1st ed. [eBook] InfoCom Research, Inc. Available at: http://www.icr.co.jp/docs/Evolution_of_Mobile_Handsets_and_the_Impact_of_Smartphones.pdf [Accessed 6 May 2015].
- MobiThinking (2014). Global Mobile Statistics 2014 Part A: Mobile Subscribers; Handset Market Share; Mobile Operators. MobiForge [Online]. Available from: <https://mobiforge.com/research-analysis/global-mobile-statistics-2014-part-a-mobile-subscribers-handset-market-share-mobile-operators> [Accessed 09 Nov. 2016].
- Mohsan, F., Nawaz, M.M., Khan, M.S., Shaukat, Z. and Aslam, N., (2011). The impact of Customer Satisfaction on Customer Loyalty and Intentions to Switch: Evidence from Banking Sector of Pakistan. *International Journal of Business and Social Science*, Vol. 2(16).

- Mokhlis, S., and Yaakop, A. (2012). Consumer Choice Criteria in Mobile Phone Selection: An Investigation of Malaysian University Students. [online] *International Review of Social Sciences and Humanities*, Vol. 2(2). pp. 203-212. Available at: <http://www.irssh.com> [Accessed 13 May 2015].
- Mokoena, Simon. UKZN Pietermaritzburg registered students. 2015. Email.
- Mont, O. and Plepys, A. (2003). *Consumer Satisfaction: Review of Literature and Application to the Product-Service Systems*. Final report to the Society for Non-Traditional Technology, Japan. [online] Lund: Lund University. Available at: <http://www.researchgate.net/publication/252184772> [Accessed 4 Jul. 2015].
- Mostaghel, R. (2006). *Customer Satisfaction: Service Quality in Online Purchasing in Iran*. Masters. Luleå University of Technology.
- Nair, A. (2013). *A Study of the Effects of the Marketing Mix with Regards of Consumer Purchase Behavior of Mobile Phones with Special Reference to Product Features*. Dubai, U.A.E.
- Nguyen, T. P., (2014). *Measuring Customer Satisfaction on Perceived Service Quality*. Undergraduate. Turku University of Applied Sciences.
- North, D., Johnston, K. and Ophoff, J., (2014). The use of mobile phones by South African university students. *Issues in Informing Science and Information Technology*, Vol. 11(2), pp.115-138.
- NUIT 2011, Cell Phone Features and Manufacturers, viewed 24th August 2016, Available from: <http://www.it.northwestern.edu/telephone/mobile/mobilefeatures.html>.
- Omar, A. (2015). *Is the SA telecoms sector ripe for change?* Prudential Investment Managers. Retrieved from <https://www.prudential.co.za/insights/articlesreleases/is-the-sa-telecoms-sector-ripe-for-change>
- Parimaladevi, P. (2016). A Study on Customers Satisfaction Towards Sony Mobile Phone in Erode City. *International Journal of Management and Social Science*, [online] Vol. 4(7), pp.628-636. Available at: <http://www.ijmr.net.in> [Accessed 15 Jul. 2016].

- Parui, R. (2015). *Study of Consumer and Retailer Perception towards Samsung Android Mobiles*. Honours. University of Calcutta.
- Rahman, M.H., (2014). Factors Affecting Customer Satisfaction in Mobile Telecommunication Industry in Bangladesh. *Business, Management, and Education*, Vol. 12(1), pp.74-93. Available at: https://www.academia.edu/7505207/FACTORS_AFFECTING_CONSUMER_SATISFACTION_IN_MOBILE_TELECOMMUNICATION_INDUSTRY_IN_BANGLADESH [Accessed 16 Jun. 2015].
- Rani, P. (2014). Factors influencing Consumer Behaviour. *International Journal of Current Research and Academic Review*, Vol. 2(9), pp. 52-61.
- Riyath, M. and Musthafa, S. (2014). *Factors Affecting Mobile Phone Brand Preference. Empirical Study on Sri Lankan University Students*. Munich: GRIN Verlag, pp.378-388.
- Saeed, R. Zameer, H. and Raheel A.R. (2012). Mobile Phone buying behavior of consumers; A comparative study of Rural and Urban consumers in Pakistan. *Global Journal of Management and Business Research*, Vol. 12(6).
- Saif, N., Razzaq, N., Amad, M., and Gul, S. (2012). Factors Affecting Consumers' Choice of Mobile Phone Selection in Pakistan. *European Journal of Business and Management*, Vol. 4(12), pp. 16-26.
- Sama, R. and Jani, M. (2014). A study on Factors affecting Consumer Buying Behavior while buying new Cell Phone Connection in Ahmedabad City. *International Multidisciplinary Research Journal*, Vol.1 (3).
- "Sample Size Calculator - Confidence Level, Confidence Interval, Sample Size, Population Size, Relevant Population - Creative Research Systems", [Online]. Available at: <<http://www.surveysystem.com/sscalc.htm>>. [Accessed 20 Feb. 2016].
- Sarmiento, A.S., and Lopez, E.M., (2012). *Multimedia Services and Streaming for Mobile Devices: Challenges and Innovation*. Information Science Reference.

- Sata, M. (2013). Factors Affecting Consumer Buying Behavior of Mobile Phone Devices. *Mediterranean Journal of Social Sciences*. Vol. 4(12).
- Sekaran, U. and Bougie, R. (2013). *Research Methods for Business: A Skill-Building Approach*. 6th ed. Wiley.
- Shahzad, K., and Sobia, R. (2013). Investigating the Factors Affecting Youth Brand Choice for Mobile Phones Purchase - Study of Private Universities Students of Peshawar. *Marketing & Management*. Vol. 8 (2).
- Sharmin, W. (2012). *Customer satisfaction in business: A case study of Moon Travel LTD, Finland*. Undergraduate. Laurea University of Applied Sciences.
- Singh, H., (2006). The Importance of Customer Satisfaction in Relation to Customer Loyalty and Retention. *Academy of Marketing Science*, 60, pp.193-225.
- Singh, J., and Goyal, B. B. (2009). Mobile Handset Buying Behaviour of Different Age and Gender Groups. *International Journal of Business and Management*, Vol. 4(5), p179.
- Solomon, M., Russell-Bennett, R., & Previte, J. (2012). *Consumer Behaviour*. Pearson Higher Education AU.
- Soomro, H.J., and Ghumro, I.A., (2013). An Analysis of Consumer Behavior in Mobile Phone Market in Sindh. *European Scientific Journal*, Vol. 9(31).
- Statistics South Africa, (2015). *General Household Survey 2013*. Pretoria: Statistics South Africa, pp.13 & 50-52.
- Sujata, J., Yatin, J., Abhijit, C., Noopur, S., and Ruchi, D. (2016). Factors Affecting Smartphone Purchase among Indian Youth: A Descriptive Analysis. *Indian Journal of Science and Technology*, Vol. 9(15).
- Tavakol, M., and Dennick, R. (2011). Making Sense of Cronbach's Alpha. *International journal of medical education*, Vol. 2, pp. 53.
- Thomas, J., and Harden, A. (2008). Methods for the Thematic Synthesis of Qualitative Research in Systematic Reviews. *BMC medical research methodology*, Vol 8(1), pp.45.

- Tsafarakis, S., Grigoroudis, E., and Matsatsinis, N. (2011). Consumer Choice Behaviour and New Product Development: An Integrated Market Simulation Approach. *Journal of the Operational Research Society*, Vol. 62(7), pp. 1253-1267.
- Uddin, M. A., Xu, H., and Azim, M. T. (2015). Factors Affecting Mobile Handset (MH) Buying Decision: An Empirical Study. *International Journal of Management and Business Research*, 5(3), 225-236.
- Uddin, M., and Akhter, B. (2012). Customer Satisfaction in Mobile Phone Services in Bangladesh: A Survey Research. *Management & Marketing*, Vol X (1), pp.21-33.
- Uddin, M., Zahan L. N., and Oheduzzaman, M. (2014). Factors Affecting Customers' Buying Decisions of Mobile Phone: A Study on Khulna City, Bangladesh. *IJMVSC*, Vol 5(2), pp.21-28.
- Van de Kaa, E. J. (2010). Prospect Theory and Choice Behaviour Strategies: Review and Synthesis of Concepts from Social and Transport sciences. *European Journal of Transport and Infrastructure Research (EJTIR)*, Vol. 10 (4).
- van Elst, H., (2013). Foundations of Descriptive and Inferential statistics. *arXiv preprint arXiv:1302.2525*.
- Vijayakumar, M. (2013). *A Study on Customer Satisfaction towards Selected Model of HTC Mobiles an Empirical Study in Coimbatore City*. Undergraduate. Kongunadu Arts and Science College.
- Wangenheim, F. and Mayser, S. (2013). Perceived Fairness of Differential Customer Treatment Consumers' Understanding of Distributive Justice Really Matters. *Journal of Service Research*, [online] Vol 16(1), pp.99-113. Available at: <https://www.researchgate.net/publication/237006114> [Accessed 8 Jul. 2016].
- Williams, B., Onsmann, A., & Brown, T. (2010). Exploratory factor analysis: A Five-step Guide for Novices. *Australasian Journal of Paramedicine*, Vol. 8(3).

- World Bank Group (2013). *Mobile Cellular Subscriptions (per 100 people) | Data | Table*. [Online] Available at: <http://data.worldbank.org/indicator/IT.CEL.SETS.P2> [Accessed 13 May 2015].
- World Bank Group (2015). *Mobile Cellular Subscriptions (per 100 people) | Data | Table*. [online] Available at: <http://data.worldbank.org/indicator/IT.CEL.SETS.P2> [Accessed 13 May 2015].
- Writer, S. (2015). SA Mobile Market Share: Vodacom vs MTN vs Cell C vs Telkom. *BusinessTech* [online]. Available from: <http://businesstech.co.za/news/general/104249/sa-mobile-market-share-vodacom-vs-mtn-vs-cell-c-vs-telkom/> [Accessed 13 May 2015].
- Yong, A. G., & Pearce, S. (2013). A beginner's Guide to Factor Analysis: Focusing on exploratory Factor Analysis. *Tutorials in Quantitative Methods for Psychology*, Vol. 9(2), pp. 79-94.
- Yu, F., and Conway, A.R. (2012). Mobile/smartphone use in Higher Education. *Proceedings of the 2012 Southwest Decision Sciences Institute, University of Central Arkansas, Conway, AR, USA*, pp.831-839.
- Zeithaml, V., Bitner, M. and Gremler, D. (2013). *Services Marketing: Integrating Consumer Focus across the Firm*. 6th ed. New York: McGraw-Hill.
- Zhao, Z. and Balagué, C., (2015). Designing Branded Mobile Apps: Fundamentals and Recommendations. *Business Horizons*, Vol. 58(3), pp.305-315.

APPENDIX A: INFORMED CONSENT

UNIVERSITY OF KWAZULU-NATAL
School of Management, IT, and Governance

Dear Respondent,

M Com Research Project

Researcher: Bridget Ijumba (+27 810 640 725)

Supervisor: Dr. Sanjay Soni (033 260 735)

Research Office: Mariette Snyman 031 260 8350

I, Bridget Ijumba am a Master of Commerce student in the School of Management, Information Technology, and Governance at the University of KwaZulu-Natal. You are invited to participate in a research project entitled, “*Factors Affecting Choice of and Satisfaction with Mobile Phones: An Investigation of University of KwaZulu-Natal (Pietermaritzburg) Students*”.

The aim of this study is to reveal factors that contribute to the choice and satisfaction of mobile phones among university students.

Through your participation, I hope to understand the external and internal influences affecting students’ decision and satisfaction. Furthermore, to find out the features they seek and wish to see improved in mobiles phones. The results of this survey are intended to contribute to the completion of my master’s degree.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records identifying you as a participant will be maintained by the School of Management, Information Technology, and Governance, UKZN.

If you have any questions or concerns about participating in this study, please contact me or my supervisor at the numbers listed above.

It should take you about 15 minutes to complete the questionnaire. I hope you will take the time to complete the questionnaire.

Sincerely

Investigator’s signature _____ Date _____

**UNIVERSITY OF KWAZULU-NATAL
School of Management, IT, and Governance**

M Com Research Project

Researcher: Bridget Ijumba (+27 810 640 725)

Supervisor: Dr. Sanjay Soni (033-260 735)

Research Office: Mariette Snyman 031 260 8350

CONSENT

I _____ (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire.

Signature of Participant

Date

This page is to be retained by researcher

APPENDIX B: QUESTIONNAIRE

TOPIC: “Factors Affecting Choice of and Satisfaction with Mobile phones: An Investigation of University of KwaZulu-Natal (Pietermaritzburg) Students”.

YEAR OF STUDY:

FACULTY:

GENDER:

PART A:

Please indicate with a tick (✓) the factors below, which contribute to your choice of mobile phone.

Factors	Very low contribution to the choice of mobile phone	Low contribution	Neutral	High contribution	Very high contribution to the choice of mobile phone
Price					
Friends					
Family					
Peers					
Status					
Durability					
Portability					
Brand name					
Product features & design					
After sales service					
Warranty					
Promotions					
Media reviews					
Distinctiveness					

Factors	Very low contribution to the choice of mobile phone	Low contribution	Neutral	High contribution	Very high contribution to the choice of mobile phone
Delicacy					
Simplicity					
Personal recommendation					
Accessories; headphones, screen protector, case, ear buds and extra battery					
Model or version of the mobile phone					
Other (please specify)					
1.					
2.					
3.					

PART B:

Please indicate with a tick (✓) the factors below, which contribute to your satisfaction with your mobile phone.

Factors	Very low contribution to satisfaction	Low contribution	Neutral	High contribution	Very high contribution to satisfaction
Signal quality					
Transmission quality					
Long-lasting battery					
Ease of operation					
Colour					
Overall Performance					
Charging adapter					
Multi-media					
Small screen display					
Large screen display					
Freezing of the touch effect					
Front camera					
Back camera					
Memory size					
Big phone size					
Small phone size					
Texture					
Portability					
Audio capacity					

Factors	Very low contribution to satisfaction	Low contribution	Neutral	High contribution	Very high contribution to satisfaction
Virus protected					
Shock resistant					
Direct Menu					
Reasonable price					
Stylish					
Other (please specify)					
1.					
2.					
3.					

PART C:

The following are features you consider when purchasing a mobile phone. Please answer all the questions in the table below with responses ranging from not important to very important. Tick (✓) the option that best applies to you.

Factors	Not important	Less important	Moderately important	Important	Very important
Size of the mobile phone					
Screen size/display					
Touch effect					
Camera					
Memory size					
Hardware and software interfaces					
Texture					
Waterproof effect					

Factors	Not important	Less important	Moderately important	Important	Very important
Colour					
Battery power					
Sound capacity					
Tangible qwerty keyboard					
Delicacy					
Simplicity					
Weight					
Multi-card hybrid phone					
Multi-mode					
Multi-band					
Vulnerability to viruses					
Portable charging adapter					
Bluetooth					
Web browsing					
Sensors					
Phone thickness					

Other (Please specify):

PART D:

Please mention five features in order of importance which you wish to see improved on your mobile phone in order to increase your satisfaction. Number 1 being the first most important and number 5 being fifth important.

1.
2.
3.
4.
5.

PART E:

Overall, I am satisfied with my mobile phone. Please tick (✓)

- 1. Strongly Disagree**
- 2. Disagree**
- 3. Neither Agree nor Disagree**
- 4. Agree**
- 5. Strongly Agree**

THANK YOU



APPENDIX C: ETHICAL CLEARANCE



26 January 2017

Ms Bridget Christabel Ijumba (210555956)
School of Management, IT & Governance
Pietermaritzburg Campus

Dear Ms Ijumba,

Protocol reference number: HSS/0814/016M

New Project Title: Factors Affecting Choice of and Satisfaction with Mobile Phones: An Investigation of University of Kwazulu-Natal (Pietermaritzburg) Students

Approval notification – Amendment Application

This letter serves to notify you that your application for an amendment dated 25 January 2017 has now been granted Full Approval as follows:

- Change in Title

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study must be reviewed and approved through an amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

Best wishes for the successful completion of your research protocol.

Yours faithfully

.....
Dr Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Dr Sanjay Soni
Cc Academic Leader Research: Professor Brian McArthur
Cc School Administrator: Ms Debbie Cunynghame

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