



**CUSTOMER EXPERIENCE WITH SMARTPHONES:  
A UNIVERSITY STUDENT PERSPECTIVE**

**By**

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**APRIL 2016**

## **ACKNOWLEDGEMENTS**

It is all God's mercies and to Him the glory.

To Doctor M. Mandusha and Mr. T.P Tlapana, I salute you.

**DECLARATION FORM**

I, Musiyiwa Mupamhanga, hereby declare that this dissertation, except where indicated (in the text and a bibliography), is my work and has not been submitted in part, or in whole, at any other University or University of Technology.

Signed.....

Date.....

This research was conducted at the Durban University of Technology under the supervision of Mr T.P Tlapana and co-supervised by Dr M Maharaj

Signed.....

Date.....

**APPROVED FOR FINAL SUBMISSION**

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**Prof S. Park.**

## DEDICATION

### Miles away ...what do we journey for?

I was once home and want to be home again.  
Fled war from Sudan,  
But it was worse in Kinshasa, there it was not yet done.  
In search of asylum,  
Went to Dar-es-Salaam.  
I am from Tanzania,  
The stigma  
Hot as it is with discrimination in Nigeria.  
Poverty is in Zimbabwe and in Ethiopia.  
I could not find solace in Algeria.  
Racism is even in Mauritania.  
Where are you from?  
I felt fear,  
Xenophobia,  
It was not in Zambia!  
But it resides together with the symbol of reconciliation.  
Courage and good hope!  
Yes in South Africa!  
The cries of despair got even louder.  
I longed for home miles away.  
Social acceptance maybe in the Ivory Coast,  
Fate.  
But I found myself in the dark and unknown same fate.  
A tear is all I have left with.  
Last hope was in Gabon,  
New hope can be born,  
Segregation followed,  
And I felt it Experienced it,  
I am a foreigner in our mother land Africa

*... with a heart that loves Africa and human-kind at large. To all those that left their homeland in search of what- ever dream, I salute and dedicate my thesis to you ALL. And to those who died during 2015 afro- phobia attacks in South Africa, this is for you.*

## ABSTRACT

The classical view that an industry is a customer-satisfying process and not a goods-producing process is vital for all businesses to understand. Today the mobile industry have produced a smartphone which represents a dramatic departure from traditional computing platforms as they no longer represent a static notion of context, where changes are absent, small or predictable. Therefore, today's industries need to begin the production process with customer's needs and not with patents, raw materials, products or selling skills. With this view rather, an organisation can only create the environment and the circumstances in which the consumer could have an experience. Furthermore, an organisation cannot grant an experience to the consumer in isolation. In seeking to expand an understating of the above classical view, this study inquired into customer experience derived from owning and using the most decorated product of the era, that is, the smartphone.

The essence of this study aimed at investigating customer experience by studying smartphone usage from the students' perspective. It studied the gap between students' expectation and the subsequent experiences in order to determine satisfaction levels. Furthermore, cognitive dissonance was investigated to determine if there were any remorse feelings towards the smartphone. A descriptive study was employed with a quantitative inquiry and the survey used the convenience sampling method. A questionnaire was administered to students within the Durban University of Technology (DUT) fraternity. The Statistical Package for Social Science Software (SPSS) version 21 was used to analyse and to interpret the data.

The key findings of the study indicate that South African university students (DUT) have positive experiences with the smartphones. Albeit, the findings indicate positive experiences, minimal presence of cognitive dissonance is also depicted. The presence of dissonance highlights that an idea cannot have a single measure which is universally meaningful. Therefore, the study expose that every product will always be exposed to suggestions of change, no matter how it can be deemed smart.

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## **ACRONYMS AND ABBREVIATIONS**

<b>CEM</b>	Customer experience management
<b>DUT</b>	Durban university of technology
<b>iSO</b>	Internetwork operating system
<b>PDA</b>	Personal digital assistant
<b>RIM</b>	Records information management
<b>Wi Fi</b>	Wireless internet for frequent interface

## **CHAPTER ONE**

### **INTRODUCTION TO STUDY**

#### **1.1 INTRODUCTION**

Communication is always a crucial part of mankind's existence. Letters, smoke, drum beats, horns, carrier pigeons and horses are among the many ancient ways of communication. However, a few simple messages could be sent and received with these primitive methods (Yelkenci, 2007: 1). Technology has matured and communication ways have changed to accommodate ever changing human needs. A great wave of change spurred South Africa not only to a new start of democracy, but joined the technological revolution in June 1994, with the introduction of cellular network service (Vodacom History, n.d: 1). As a result of technological advancement, there is a convergence of computing and communication capabilities, to form a phone combination with multiple capabilities. Hence, a popular personal hand-held digital device evolved, that is, the smartphone (Park and Chen, 2007: 1349).

North, Johnston and Ophoff (2014: 115) highlight that, in the 21<sup>st</sup> century the mobile phone is an integral part of everyday life, only found strange when it is absent. Hence, in South Africa, a country often regarded in many ways as a pioneer for the rest of the African continent; there are as many active cellphone subscribers as inhabitants (Kreutzer, 2008: 1). Synovate found that 87% of South Africans aged 16 to 24 declared that they could not live without the smartphone (Donner and Gitau, 2009: 17). Within the overall subscriber base, smartphones have a significant market share of 16%, and it is predicted that it will rise to 80% in 2014 (Mydigital life, 2011: 1). Furthermore, according to the South African mobile report (2014:2), 92% of mobile phone users use a smartphone. Furthermore, Vodacom Network Operator (2011) attributed the increase of smartphone usage to a notable increase of smartphones, supported by cheaper full-touch screen Android devices, which are currently selling at below R700, an initiative likely to unlock the smartphone revolution for a wider audience. Why is this small device gaining so much popularity with university students? Smartphones are a relatively new communication concept adopted by all university students. Therefore, investigating customer experience from university students' perspective is an area of special interest and deserves investigation in its own right.

#### **1.2 RESEACRH PROBLEM**

Verhoef, Lemon, Parasuraman, Roggeveen, Tsiros and Schlesinger, (2009: 32) state that scarcity of systematic scholarly research on the customer experience construct and customer experience management calls for a theory-based conceptual framework that can serve as a stimulus and foundation for such research. The literature in marketing, retailing and service management historically has not considered customer experience as a separate construct. Instead, researchers have focused on measuring customer satisfaction and service

quality (Parasuraman, Zeithmal and Berry, 1988; Verhoef, Langerak and Donkers, 2007). Contemporary studies in South Africa have investigated mainly individual selected aspects of smartphones and not overall customer experience, as evidenced by studies below:

- Batemen (2011) investigated how smartphones improve health services in South Africa;
- Gitau, Marsden and Donner (2011) and Chigona, Kamkwenda and Majoo (2008) studied internet usage in Cape Town; and
- North *et al.* (2014) studied the use of mobile phones by South African university students.

There appears to be an information gap which depicts inadequate research on overall customer experience with smartphones. Thus, with advent of smartphones, an opportunity to research on students' experience with the device is presented.

Interest in this research has been stimulated because the latest technological innovations found weak correlations between heralded benefits and actual experiential value. When one buys a product, one expects it to perform and it does not matter how well it was produced and delivered. The consumer must be satisfied with the offering. Albeit, advanced innovations have aesthetic appearances, customers are no longer satisfied with product frills but by benefits derived (Carlsson, Carlsson, Hyvonen, Puhakainen and Walden 2006: 2). Furthermore, Kotler and Armstrong (2011: 20) postulate that many vendors make the mistake of paying attention to the specific products on offer than to the benefits and experiences produced by the products. Thus, a consumer's perspective is essential to determine the overall quality of a product (Haque and Haque, n.d: 1). However, little or no effort is being put to uncover the full range of customers' unspoken perceptions and expectations (Kim and Lee, 2010: 4036). With all the multi-functions and features embedded, the question arises, are smartphones meeting student expectations? Furthermore, is it providing the perceived experiential value (Park and Chen, 2007)? The research problem can be summarised as the need to understand pre-purchase expectations/perceptions and post-purchase experiences to identify satisfaction levels derived from this relatively new innovation, the smartphone.

### **1.3 AIM AND OBJECTIVES**

The aim of the study is to investigate students' overall experience with smartphones and specific reference will be drawn from Durban University of Technology (DUT). The objectives of the study are:

- To examine actual students' experience with smartphones relative to the expectations and actual perceptions;
- To establish student satisfaction levels at all contact/touch points;
- To identify key drivers of smartphone usage preferences and brand preferences; and
- To establish post-purchase cognitive behaviour amongst students using smartpones.

#### **1.4 IMPORTANCE OF STUDY**

In the 21<sup>st</sup> century, smartphone is the heart bit of student everyday life, only found strange when it is absent (North *et al.*, 2014: 115). In such an era, the study focused on students' experience with smartphone usage, hence, providing information contributing to the South African smartphone industry by enabling distributors and service providers to understand students' expectations, perceptions and smartphone usage patterns. The student market segment resembles heavy users of new mobile innovations and also resembles the profile of potential professional mobile innovations users. Therefore, the results could be helpful to both the distributors and service providers to prioritise marketing efforts and enhance the features most desired by this specific target group and spur improvements in user experiences.

This study could also be of interest to organisations and citizens who are engaged in transforming and improving service delivery in general. Smartphone knowledge can be encompassed into enhancing speedy service delivery communications (Rakate, 2006: 11). The output of the study can be used by university stakeholders to interact and integrate communication with students exploiting smartphone technologies, thus improving service delivery. This study focused also on why smartphones are pervasive amongst students. Such feedback is a foundation which the universities may use to improve the quality of learning in South Africa.

#### **1.5 DELIMITATIONS OF STUDY**

The research study site was confined to the Durban University of Technology (DUT). The institution is located in KwaZulu-Natal, South Africa. The university consists of the Brickfield campus, City campus, ML Sultan campus, Riston campus and Steve Biko campus (Durban) and the Riverside campus together with the Indumiso campus in Pietermaritzburg. According to Synovate (2009: 1), smartphones are most popular in Durban with 27% share as compared to other major cities in South Africa. Since the Durban University of Technology is located in the city of Durban, for convenience, the study was conducted at Durban campuses and confined to one university.

#### **1.6 EXPLANATION OF KEY CONCEPTS**

Literature was reviewed within a theoretical framework of customer experience and its dynamics. Attention was given to a traditional set of controllable marketing mix elements and its contribution to the idiosyncrasy of customer experience as a phenomenon. Prior studies on smartphones in South Africa and around the world were utilised as foundational information for this study.

### **1.6.1 Customer experience**

Jaffe (2010: 97) refers to customer experience as the total of all contact points, interactions, transactions and encounters between a customer and the organisation, its brands, and its various product and service offerings over a determined period of time. Moreover, customer experience may be linked to a customer journey which makes the customer feel happy, satisfied, justified, and delighted according to his/her expectations or standards. The experience starts from the first contact and continues through the whole product life cycle. Over the past few decades, companies have found it difficult to build and sustain competitive advantages. However, companies can measure and optimise experiences to minimise problems and maximise satisfaction, loyalty and business outcomes (Durst, 2008: 1). Customer Experience Management (CEM) examines the following key areas:

- customer satisfaction;
- customer expectations;
- customer perceptions;
- cultural factors;
- attitudes;
- cognitive elements;
- the environment;
- the product (smartphone); and
- the brand.

The customer experience elements are elucidated below:

### **1.6.2 Customer satisfaction**

According to Cengiz (2010: 80), literature has revealed customer satisfaction in so many colourful ways. However, these shades share common elements. Three general components can be identified:

- customer satisfaction is a response (emotional or cognitive);
- the response pertains to a particular focus (expectations, product, and consumption experience); and
- the response occurs at a particular time (after consumption, after choice and based on accumulated experience).

Meyer and Schwager (2007: 3) claim that customer satisfaction is essentially the culmination of a series of customer experiences, or as the net result of the good ones minus the bad ones. It occurs when the gap between customers' expectations and the subsequent experiences has been closed. Based on the views of Kotler and Armstrong (2011: 27), customer satisfaction depends on the product's perceived performance relative to a buyer's expectations. If the product performance falls short of expectations, the customer is

dissatisfied. If performance matches expectations, the customer is satisfied. If performance exceeds expectations, the customer is highly satisfied or delighted.

### **1.6.3 Customer expectations**

Steward, Morgan, Crosby and Kumar (2010: 25) postulate that customer expectation is perceived value which customers seek from the purchase of the product. It is important to understand the role of customer expectations as pre-trial beliefs about a product that serve as standards or reference points against which product performance is judged. Furthermore, at each touch point, the gap between customer expectations and experience spells the difference between delight and something else (Meyer and Schwager, 2007: 3).

### **1.6.4 Customer perceptions**

According to Perner (2010), perception is defined as an approximation of reality. The human brain attempts to make sense out of the stimuli to which one is exposed, for example, by commercial messages. When something affects one's senses of sight, sound, colour or taste in a big way, one pays attention or becomes attracted to getting more, getting involved, getting less or getting away. (OP Research papers, 2010: 1)

### **1.6.5 Cultural factors**

In one's daily life, one is always affected by outer influences that greatly affect one's daily satisfaction levels with products. Cultural influence has a great psychological factor that affects satisfaction levels. Cultural influence has the most indirect impact on satisfaction levels with new innovations. One is a product of handed down culture and this influence changes slowly over time (Seven Common psychological factors that determine the decision to buy, 2010).

### **1.6.6 Attitudes**

According to Smith and Albaum (2010:207), attitudes toward a product can be developed as a result of the information or experience with the product, whether perceived or real. Affect (liking/disliking) is best measured in the context of product attributes or benefits.

### **1.6.7 Cognitive elements**

A cognitive element is defined as an appraisal or conclusion that the product is useful (or not useful), fits the situation (or did not fit), and that it exceeds the requirements of the problem/situation (or did not exceed).

Furthermore, cognitive responses are specific to the situation for which the product was purchased and specific to the consumer's intended use of the product, regardless if that use is correct or incorrect (Smith and Albaum, 2010: 210).

### **1.6.8 The environment**

Durst (2008: 1) states that examining the landscape for brand discovery is an essential tenant of customer experience management. These multi-path strategies work to ensure that customers have an intuitive, pleasing and seamless experience at every step in the journey to brand discovery. Furthermore, Pride and Ferrell (2009: 50) state that the environment consists of external forces that directly influence customer experience. Changes in these macro-environmental forces: economic, competitive, legal and technology, create direct and indirect changes in consumers' perceptions.

Micro-environment explains the forces that are distinct and individual such as customers, producers, marketing intermediaries, public entities and the organisation itself. These are controllable by the managers (McDaniel, Lamb and Hair, 2012: 104).

### **1.6.9 Smartphone**

According to Chen, Park and Putzer (2010: 2), an organisation's offering has a direct impact on customer experience. The term smartphone is a more marketing friendly tag that describes a small hand-held device which serves as both a mobile computing and communication device. Moreover, the smartphone is a hybrid of a mobile phone and personal digital assistant (PDA). It offers a comparatively large processing power, memory capability and screen capability, and an efficient input method. Smartphones have the advantages of both devices without having the disadvantages of mobile phones, like small displays and insufficient input method. Furthermore, it erased the biggest disadvantage of PDAs, that is, not being able to communicate with by voice (Dach, 2006). Thus, these powerful devices are intended to satisfy users by providing operating systems similar to computers in a hand.

### **1.6.10 The brand**

Kotler and Keller (2012: 263) claims that a brand is a name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from competitors. Drotskie (2009: 129) states that brands are largely perceptions and it is significant to note, however, that the organisation's real brand identity is a direct outcome of customer experience over time. Customers' perceptions influence the total experience, including the search, purchase, consumption and post-

purchase. The customer comes to a retailing environment with perceptions about two types of brands: retail brands (for example, service providers) and manufacturer brands (Verhoef, Lemon, Parasuram, Roggeven, Tsiros and Schlesinger, 2009: 37). Therefore, it is important to note that brands reflect specific benefits or experiences that give meaning and identity.

## **1.7 RESEARCH METHODOLOGY**

### **1.7.1 Research design**

The research design is a plan for addressing the research objectives (McDaniel and Gates, 2008: 48). This descriptive study used quantitative approach to ascertain students' expectation against the subsequent perception experiences with smartphones.

### **1.7.2 Target population**

Lavrakas (2010: 10) is of the idea that the target population is the entire set of units for which the survey data are to be used to make inferences. The target population was composed of the total sum of DUT students. As students come from different backgrounds, this gave a wider study topic. The study chose students because they are heavy users of new technological devices, including smartphones. An approximated 23 000 students will be used as the target population (Common Wealth Ministers, 2011: 1). In addition, smartphones have become common place: cellphones are almost ubiquitous on university campuses worldwide, for example, in the USA, with 98.5 per cent of students owning one or more smartphone (Donner and Gitau, 2009: 17).

Furthermore, while smartphone use has been increasing across economic and age sectors, university students have been seen as one of the most important target markets and the largest consumer group of smartphone services (Head and Ziolkowski, 2012: 2331).

### **1.7.3 Respondent selection**

According to Sekaran and Bougie (2010: 296), a sample size larger than 30 and less than 500 is appropriate for most research. However, what is probably useful are the easy to read tables that have been developed to calculate sample size, while taking into account: the variance (or heterogeneity) of the population; the magnitude of acceptance error and the confidence level and the kind of analysis to be undertaken (Gill and Johnson, 2010). For a population of 20 000, the tables suggest a sample size of 377. Based on the later sample size and also on the available budget, rules of the thumb and the number of subsamples, the researcher used 386 students out of approximately 23 000 students, that is, just under 64 students were selected within each campus.

#### **1.7.4 Data collection**

Data was collected using questionnaires with structured questions. The five-point Likert scale ranging from strongly disagrees to strongly agree was used to determine the expectations and perceptions of customers. The questions were developed and based on the literature review and research objectives. The issues in the questionnaire are:

- Pre-purchase expectations;
- Post-purchase perceptions;
- Satisfaction levels; and
- Post-purchase behaviour (cognitive thoughts).

A letter of information and consent was provided to respondents to clarify the study's intentions and purpose. The letter informed the respondent that taking part in the research was voluntary and that confidentiality is to be maintained. The respondent was given time to read the letter and ask questions before signing and participating in the research.

Further, permission was granted by the Research Ethics Committee before questionnaires were administered at various DUT campuses. This procedure delayed the administration of the questionnaire. Prior to conducting the full survey, ten questionnaires were personally administered to conveniently available students at the ML Sultan Campus to make sure that the questionnaire is valid and reliable. Question wording and appropriateness were checked and revised as needed to refine the methodology. The pre-test aimed to reveal acceptability and easy understanding from the respondent's point of view. Deficiencies and pitfalls were identified and addressed before full - time and other resources were committed. The research mentor/supervisor and co-supervisor were consulted to help refine the questionnaire.

The researcher collected primary data with the assistance of two research assistants. Primary data was collected directly from students using a self-administered questionnaire. The respondents were student volunteers on the campus but not attending academic and/or sporting university curriculum during the moment of the survey. The questionnaire was handed out face - to - face for immediate completion on the spot.

#### **1.7.5 Data analysis**

Welman, Kruger and Mitchell (2005) boldly state that, after data is obtained, the results must be analysed and interpreted. Data collected were analysed and presented using the Statistical Package for Social Science Software (SPSS) version 21. Appropriate statistical methods were used to analyse data: the applicability was governed by the number of variables involved (Chisnall, 1992: 352). Uni-variate analyses were carried out

using frequency tables, pie charts, histograms and any relevant techniques. Attributes were analysed using bi-variate techniques including; Spearman's Inter-correlation, Wilcoxon signed rank test and cross-classification to explain the differences matched against a dependent variable. Customer experience study attracts more complex relationships among several variables on the set data collected, hence, the need to use multi-variate techniques. Multiple regression and conjoint analysis were used. The response rate and normality test were done to establish meanings. Inferential test were applied also to test the research objectives.

#### **1.7.5.1 Validity**

The questionnaire was presented in layman's English terms. The research assistants were trained by the researcher before the data collection phase. A pre-test was done to validate the instrument to ensure that it was measuring what is intended to and revision was done. The factor analysis test was conducted to check for validity of the instrument. According to Yamaguchi (2008: 165), the KMO Measure of Sampling Adequacy (MSA) must be 0.60 and higher and the Bartlett's Test of Sphericity must be significant.

#### **1.7.5.2 Reliability**

Zikmund and Babin (2007:321) state that reliability is concerned with consistency, accuracy and predictability of the research findings. In other words, reliability is focused on accuracy of the actual measuring instruments or procedures. An appropriate sample was used. Cronbach's alpha test was used as a very useful tool in the study because the questionnaire asked respondents to rate the degree to which they agree or disagree to statements on the five-point Likert scale. According to Sekaran and Bougie (2010:325), reliabilities less than 0.60 are considered to be poor, those in the 0.70 range acceptable and those over 0.80 good.

### **1.8 OUTLINE OF THE STUDY**

Chapter one provides an overview of the entire study by giving a brief background, highlighting the problem statement together with research aim and objectives. Moreover, the first chapter highlights the scope of the study. The domains (customer experience and smartphones) of the research are explored in chapter two. The third chapter contains research methodology, that is, a plan to address the research objectives. Furthermore, this chapter will discuss data collection methods, instruments and data analysis methods. Chapter four presents results of fieldwork, analysis and interpretation of data. The final chapter provides conclusions and recommendations of the study taking into account the theoretical and practical implications.

## **1.9 CONCLUSION**

The background and statement of the problem have been detailed and objectives highlighted. Delimitations, the aim and importance of the study were outlined. This chapter reviewed customer experience and its components. Research methodology was also discussed in this chapter outlining the series of steps to attain the overall research plan. The chapter that follow focuses on literature around customer experience and the smartphone with young people at the heart of the study. The next chapter will present the review of relevant literature.

## **CHAPTER TWO**

### **REVIEW OF LITERATURE**

#### **2.1 INTRODUCTION**

This chapter reviews the delineation of customer experience and its determinants and dynamics in market environments. The traditional set of controllable marketing mix elements and the contribution to the idiosyncrasy of the customer experience as a phenomenon will be discussed. The chapter also includes a discussion of customer experience allied to expectations and perceptions. This chapter, therefore, presents an overview of customer experience and what the thinking behind experiences is, thereby providing a theoretical background on which the research is based.

#### **2.2 CUSTOMER EXPERIENCE: WHAT IT IS**

Customer experience refers to the internal and subjective response customers have to any direct or indirect contact with an organisation. Furthermore, direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representations of the organisation's products, services, or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews, and so forth (Meyer and Schwager, 2007: 3).

Marking out a critical issue, consumers are statistics and customers are people. From the perspective of this new adage, customer experience can be viewed as a renewed way to consider the well-known concept of consumption. Moreover, it has become a holistic experience which involves a person rather than a customer at different levels and in every interaction between a person and the organisation's offer (Britton, 2003). Therefore, the creation of value is not only about selling memorable experiences but also enabling the customer to live all the moments of the relationship with the organisation in an excellent way, even beyond expectations (Prahalad and Ramaswamy, 2004).

Adding to the above schools of thought, customer experience is holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer. This experience cannot only be created by elements which the retailer can control, but also by elements that are outside of the retailer's control (Verhoef *et al.* 2009: 37). Furthermore, Palmer (2010: 197), in support of the argument, states that what people really desire are not products, but satisfying experiences. Consequently, many smartphones are marketed as experience providers rather than just products to link with the men's inner world.

**Figure 2.1 View customer experience from their perspective**



Source: Hunsaker (2013: 6)

Figure 2.1 depicts a comparison between the stimuli and customer's expectations that correspond to the different moments of contacts or touch points in creating experiences (Sheng and Teo, 2012: 140). Hence, the circumstance driving the buyer's pursuit of the desired outcome shapes the respective experiences. Therefore, based on the above perspectives, the study adopts a definition that perceives customer experience as a process from the consumer's perspective.

Shaw (2011:1) claims that customer experience is an interaction between an organisation and a customer as perceived through a customer's conscious and subconscious mind. Albeit retailers have goals, so do consumers. These desired outcomes influence expectations and perception experiences. It is, therefore, essential to be crystal-clear about what consumers buy as they engage in behaviour to achieve certain goals or solve identified problems and not just buy products (Puccinelli, Ronald, Goodstein, Raghubir, Price and Stewart, 2009: 18). Furthermore, Meyer and Schwager (2007:2) claim that the secret to a good experience is not the multiplicity of features on offer but the ultimate value the consumer derives. Its evaluation, therefore, depends on the comparison between a customer's expectations and the stimuli coming from the interaction

with the organisation and its offering in correspondence of the different moments of contact or touch points (Gentile, Spiller and Noci, 2007: 397).

Discussion of experience in a marketing context has a long history. Abbott (1955), cited in Holbrook (2006: 715), notes that what people really desire are not products, but satisfying experiences. Experiences are attained through activities. In order that activities may be carried out, physical objects for the services of human beings are usually needed. Here lies the connecting link between men's inner world and the outer world of economic activity. Therefore, students will desire smartphones because of the experience hoped for. To further add to the discussion, the above literature explains that customer experience is a transformation of every aspect the organisation offers into value, as perceived by the consumer: the product, price, place and promotion. Hence, the following part reviews the traditional marketing mix elements in line with customer experience.

## **2.3 MARKETING MIX ELEMENTS**

Armstrong and Kotler (2013: 246) define marketing mix elements as tactical tools that marketers use to implement the strategies and deliver superior customer value. Today, all kinds of companies are recasting the traditional goods and services (marketing mix elements) to create superior customer experience. This study embraces the marketing mix elements to explore customer experience and also to evaluate the existing smartphone and optimize the impact with students as the target market. Hakansson and Waluszewski (2005: 115) conclude that, in the consumer's perspective, the controllable variables have genuine commonality; they are all carriers of opportunities and restrictions, and thus are import sources of dynamics. These marketing variables include; the product, the price, promotion and place (Hawkins and Mothersbaugh, 2010:21).

### **2.3.1 Product: solutions or open opportunities for experience**

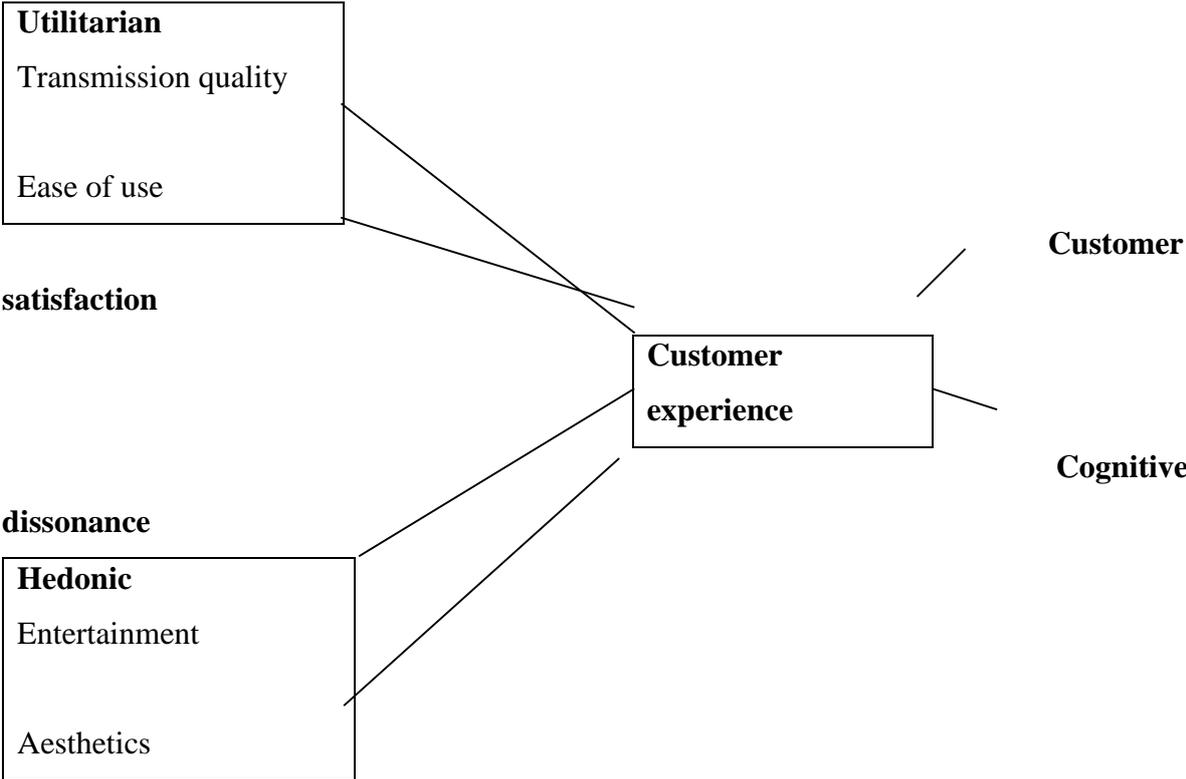
What is the buyer really buying? Products are artifacts that are conducive to experiences and which can be properly employed by consumers to co-create their own unique experiences (Sheng and Teo, 2012: 140). Indeed, customers acquire them via exchange and an important strategic fact about products is that the packages are not created or sold as individual elements; rather as offerings or as bundles of attributes. Furthermore, Armstrong and Kottler (2012: 250) broadly highlight products as including other marketable entities such as experiences. Therefore, the secret to a good experience is not the multiplicity of features on offer because what people really desire are not products but satisfying experiences. For example, when buying a smartphone, the product customers buy is expression, a life style, mobile computing abilities, social convenience and on the-go connectivity to people and resources (Palmer, 2010: 197).

While the adage, more is better may apply to many living organisms in life, this may not always be the case with complex consumer products, such as smartphones. While the owner of a feature-rich product, such as the mobile device, may be able to boast about the technological advancements of owner’s device, are more features necessarily better? Will consumer be satisfied and have positive feelings about using the mobile device with its many diverse and complex featured (Head and Ziolkowski, 2012: 2332)?

Products are really nothing but attributes. In support of this view, Crawford and Benedetto, 2006 (2006: 126) point out that a product is a group of attributes carefully combined to deliver experience. Rather, real value comes from the ability to deliver benefits that enhance a customer’s experience or solve a customer’s problems. In the study context of smartphones, Sheng and Teo (2012: 139) state that product attributes can be viewed as utilitarian (practical, functional) and hedonic (entertainment, joyful). The conceptual model in Figure 2.2 depicts how products interact with customers to ensure derivation of experiences.

**Figure 2.2: Conceptual model**

*Product attributes*



Source: Sheng and Teo (2012: 140)

Figure 2.2 illustrates that product attributes shape the design of customer experience that affects satisfaction and dissatisfaction levels. This implies that the product is a carrier of potential experiences. Smartphone attributes have become more diverse and the utilitarian and hedonic benefits provide more opportunities for differentiating among brands from the consumer's perspective. The utilitarian benefits refer to functional and instrumental value of consumption and the hedonic benefit refers to the pleasure and experiential value (Sheng and Teo, 2012: 140). Therefore, the purpose is to create wonderful and emotional experiences for consumers around whatever is being sold. It is fast becoming a norm in all industries; the smartphone domain is not an exception. In most countries, smartphones have become an inseparable part of everyday life and a majority of people carry them all the time (Smura, Kivi and Toyli, 2009: 53). Furthermore, utilitarian and hedonic attributes can be many things in the form of functions, features and benefits (Crawford and Benedetto, 2006: 126). In the context of smartphones devices, for example, the device's battery life and sound volume are utilitarian benefits, whereas appeals to aesthetics based on shape or color are hedonic benefits.

Customers select products based on utilitarian or hedonic attributes which create specific experiences that engender specific outcomes that are supportive of personal values (Oulasvirta, Rattenbury, Ma and Raita, 2011: 46). Nanda, Kramer, Hay and Ignaczl (2008: 348) assert that smartphones have become an integral part of everyday life of the users; it is not merely computational devices but also personal expressions of the users' lifestyle. To cement the discussion, De Mooij (2011: 113) boldly states that people will buy products that are compatible with the ideal self-images. Hence, ownership of the products transfers the meaning of the products to the consumer. By owning the smartphone, it becomes part of the extended self. Therefore, product image also contributes to the consumer's self-concept. Penrose (1959), cited by Pitelis (2007), states that the value of a resource is determined by the services – experiences it offers. Both the smartphone attributes and the value, for example, are issues of how the product is embedded into the lifestyle of the university student.

Albeit when making empirical observations of exchange the product is being regarded as one of the most visible indications of what is going on, it is impossible to find an optimal solution. This implies that the product will always be exposed to suggestions of change no matter how it can be deemed smart. Embedding products into user interface means embedding a source of dynamics (Hakanson and Waluszewski, 2005: 113). Therefore, a product is everything, both favorable and unfavorable, that a person receives in an exchange (McDaniel, Lamb and Hair, 2012: 323).

Furthermore, a great product is also viewed as all-in-one bundle. This is when many features are integrated into a single device. The market shows a presence of need for these kinds of products and services (Nunes, Wilson and Kambil: 2000). Gallo (2012: 3) concurs that, when the Apple store celebrated its tenth anniversary, the majority of media articles credited its success to products and design but, as Gallo (2012: 17) points out,

products are only a small piece of the experience puzzle. This implies that experience is an outcome of every aspect of the offering starting from expectations and beyond perceptions.

### **2.3.1.1 The smartphone product**

Oulasvirta *et al.* (2011: 105) view the smartphones as handheld personal computers that represent the most recent step in the evolution of portable information and communication. According to Song and Lee (2012: 578), a smartphone is a mobile phone built on a mobile platform, such as Apple's iOS (iPhone), Google's Android, RIM's Blackberry, and Microsoft's Mobile Windows, which are capable of computing applications, e-mails, media players, and cameras, in addition to voice calls and web browsing. A smartphone uses either Wi-Fi or telecommunication service providers' networks to access the Internet. Users can download mobile apps to smartphones for customized applications and features. Cell phones and PDAs (Personal Digital Assistants) with web browsing capability, but no mobile application (app) features, are not considered as smartphones for this survey. Rather, smartphones are generally distinguished for the highly functional and customizable experiences, and the ability to deliver functions that come from the combination of a mobile phone and a personal digital assistant (Travagali, 2012: 25).

A further argument for the paradigm shift in the twenty first century is that the smartphone is an integral part of everyday life only found strange when it is absent (North *et al.*, 2014: 116). Contributing to the discussion, Balakrishnan and Raj (2012: 270) state that mobile phone has simplified communication and brought lots of benefits for all spheres of life, especially for the youth worldwide. Shambare and Mvula (2011: 10557) reflect the smartphone as the most popular device within South African universities.

According to Gerogiannis, Papadopoulou and Papageorgiou (2012:157), the diversity of characteristics/functionalities possessed by the device positively impacts smartphone user satisfaction that can be attributed to issues like perceived convenience, usability, efficiency and security. Factors such as the ability to perform remote control of everyday things, independence of time and place and fast communication, influence the user preferences. Effective service support and help-desk services also have a positive impact on user satisfaction. However, offered functionalities are often in conflict with cost and difficulty/complexity concerning the device usage. On one hand, smartphones, by offering functionalities similar to personal computers, may become complex and learning consuming devices and, consequently, novice technology users may be discouraged from using them. Furthermore, smartphone users may confront usability problems and difficulties to learn how to use the phone features and applications. On the other hand, smartphones are more expensive compared to conventional mobile phones. Hence, a potential buyer should balance the cost of purchasing a device with the level of offered functionalities. Consequently, smartphone providers should offer

a proper pricing scheme that has to be reasonable, according to the provided functionality and services. Furthermore, smartphones are energy hungry devices and users tend to prefer models characterized by efficient battery functionality. Thus, smartphones are powerful, software intensive information technology products which present a significant market potential. Therefore, to meet high expectations of current or potential users, many issues have to be considered as well as trade-offs between them.

Albeit the smartphone is changing the lives in this transformation, the key players of the industry are likely to put more focus on user data and insights to keep up with creating delightful user experiences. Verkasalo (2010: 258) points out questions that smartphone players should answer every day to stay above competition;

- Who are likely to adopt the application?
- How do user interfaces and keypad affect stickiness to value-added applications?
- When and where should location-based advertisements be delivered, and to whom?
- How are the investments in networks actually correlating with perceived use, and satisfaction, among users?
- Are users satisfied with the services, and if not, why?
- Who are customers likely to change for a competing device or subscription in the short-term future, and should one prevent this from happening?
- How is pricing affecting the use of the mobile Internet?
- Who are the people interested in using, and willing to pay for a new application offering?
- How to increase adoption of services through the elimination of bottlenecks?

The above are some exemplary questions that are of importance to mobile businesses across the globe today. One thing is for sure, new kinds of data on user behaviour is needed in solving these problem.

### **2.3.1.2 Smartphone use among the youth**

Growth in demand for advanced mobile devices boasting powerful processors, abundant memory, larger screens and open operating systems has outpaced the rest of the mobile phone market for several years (Shin, Shin and Choo, 2011: 22207). Mobile phones are known to be very popular among university students, increasing the social inclusion and connectedness as well as providing a sense of security. Furthermore, among a cohort in which friends and peers are highly influential, reinforces relationships between close friends and families and provides a sense of security as they can contact others in times of distress and emergencies (Balakrishnan & Raj, 2012: 263)

Aoki and Downes (2003: 349) state that these devices are being used in a variety of contexts. For example, some youth also believe that the status among peers improves if they use a technologically advanced product. The smartphone is basically used as a space-adjusting technology that allows one to move around easily in

different and multiple social spaces. For these consumers, the smartphone is not only a personal device used to stay connected with friends and family, but also an extension of their personality and individuality (Grant and O'Donohoe, 2007:224).

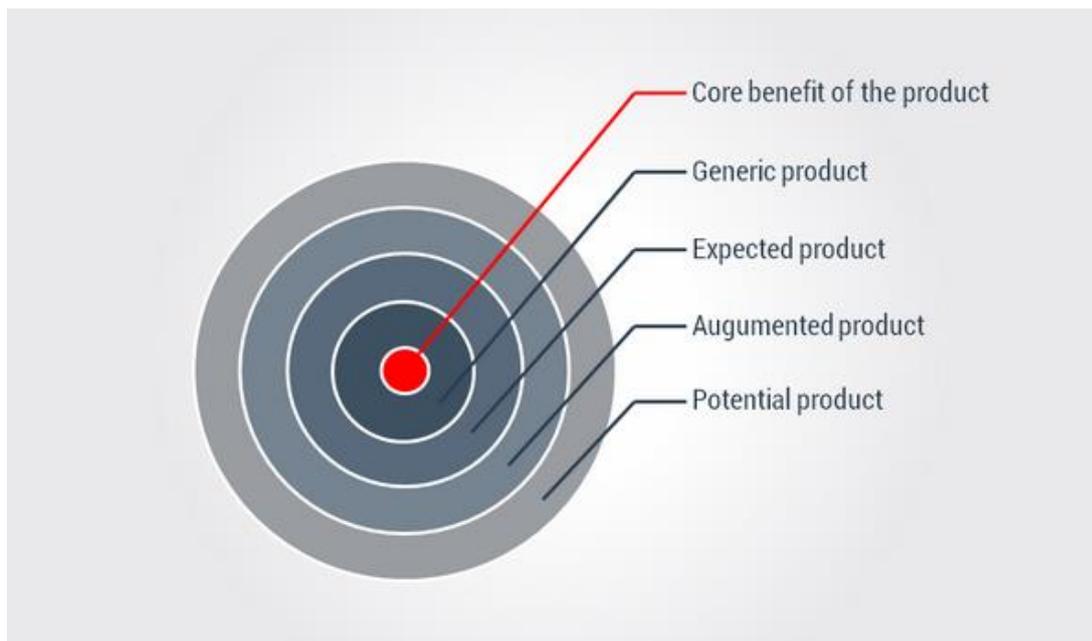
In spite of many benefits, the smartphone also has a negative impact on young users and the environment. Selwyn (2003) is of the view that classrooms are disrupted when mobile phones are used, at inappropriate times. To add on, inappropriate use can also spur accidents in roads. According to Walsh, White and Young (2008: 77), young drivers are more likely to use the mobile phone while driving, than any other group. In reference to this, other negative consequences of using smartphones include addiction, that is, individuals are so engrossed in the smartphone use to the extent that they neglect other areas of life (Barashdi, Bouazza and Zubaidi, 2014: 637).

### **2.3.1.3 Product Levels**

Kotler and Keller (2012: 348) state that marketers must consider five product levels when planning a market offering. Each level adds consumer value. The product five levels are as below:

- Core benefits: the service or benefit the customer is really buying, that is, the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use;
- Basic Product: thus the physical mobile phone;
- Expected Product: a set of attributes and conditions that buyers normally expect when purchasing the ware;
- Augmented Product: the organisation searches for ways to meet expectations beyond that required or expected by the customer. Thus, successful companies seek the competitive advantage by enlarging the core product by striving for positive use experience, and;
- Potential Product: which encompasses all the possible augmentations and transformations the product or offering might undergo in the future. Here is where companies search for new ways to satisfy customers and distinguish the offering.

### **Figure 2.3: Product levels**



Source: Kottler and Keller (2012: 348)

Figure 2.3 depicts product levels that may be reflected within a smartphone product. The smartphone's market core value for most buyers could be the convenience and timeliness of tele-communication, including multi-media communication. At the second level, generic product could be concrete, communicable, and multi-function of the smartphone product. At the third level, the expected product could be that the smartphone user expects that the smartphone is useful and of good quality, for example, the phone's performance, camera, and screen pixels. At the fourth stage, the augmented product can be the pleasing design, brand name and diversity. At the fifth level, the potential product could possibly be the voice control system and waterproof devices (Khanuja, 2014: 3).

Both utilitarian value and hedonic value are associated with consumer decision making. To illustrate further, smartphone buying (and owning) experience involves both value types. First, a smartphone is, in itself, a means to an end. That is, owning a smartphone enables the student to communicate with the next person. Secondly, much of the smartphone buying (and owning) experience is based on the hedonic value. However, the hedonic value of each would differ based on the feelings involved with consumption. Hence, value perceptions influence the consumption process (Babin and Harris, 2013: 249).

#### **2.3.1.4 Purchase and consumption decision**

Chow, Hong, Chen, Ai, Yeow, Wah and Wong (2012: 45) found that when an individual is exposed to stimuli and finds the experience to be positive and best-fit what the customer wants then, it can lead to purchase. When customers search products with limited time, they will examine various product attributes to form the first impression. The perception of attributes has strong association with consumer estimation of whether the product can satisfy the need. Hence, by studying the structure of product attributions based on the consumer's perception, it can support marketers to better understand consumers' acceptance of products. Therefore, this can be of paramount importance for smartphone manufacturers as more and more technologies and functional designs have been introduced and integrated into recent manufactured devices.

According to Mohan (2014: 31), consumers can base their smartphone purchase decisions on a range of product attributes, such as price, wireless carrier, phone functions, phone design, brand, usage, phone size, carrier flexibility and purchase location. When consumers engage in the search for smartphones, some buyers look for only communication capabilities, while the majority of the customers look for other benefits like efficiency, ease of use, comfort and other functions. Customers' criteria of evaluating benefits to be derived from mobile phones include factors like functions, specifications, aesthetics, brand image, self-feeling and user experience. These factors added together have an influence on the overall consumer perception.

The rapid widespread purchase and consumption of smartphone can be attributed to many factors, among which are the facts that these new devices are faster, lighter, stronger, and more convergent than ever before. Also, they come with different features that attract users, such as a digital camera, a movie camera, a diary, a phone book, a GPS, a radio, MP3 player, a web browser, a data storage device, an encyclopedia, an alarm clock, a dictaphone, a personal organizer, a flashlight. All these extras make the majority of people in developed and developing countries use (Barashdi *et al.*, 2014: 638).

There is confusion with regard to the standard definition of product attributes of smartphones; due to the reason that consumers generally perceive product attributes in a conceptual way. The concept of product attributes is formed during the perception process. The common features that customers look for when shopping for smartphones include; functions, appearance, multimedia functions, connectivity, personal information management functions, body design, brand and country, and product image. The common functions and appearance are more important to university students, for example, the phone book and the short messaging system (SMS) function. These enable socialization and affection, immediate access and mobility, relaxation/escape, entertainment, information seeking/coordination, and status (Grellhesl and Punyanunt-Carter, 2012: 2175).

The consumer is marred with plenty of options. Therefore, Kotler and Keller (2012: 192) suggest that generally the purchasing experiences involve going through five stages before and after the actual purchase experiences, include needs recognition, information search, evaluation of alternatives, purchase decision and post-purchase behaviour.

### **2.3.2 Price: sacrifice towards experience!**

Kotler and Armstrong (2012: 314) elucidate that price refers to the sum of all values that customers give up to gain the benefits of having or using a product. Price, therefore, is that which is given up which means what is sacrificed to get an experience. It can be money; time involved in searching for product information and/or includes, lost dignity, which is experienced when a consumer buys a product that does not conform to needs.

There is an old adage; you get what you pay for, meaning if consumers perceive that the product's price is greater than its value, consumers may not buy it. However, if consumers pay a higher price, high value is anticipated. One explanation of this is based upon research, that is, consumers infer quality information from product price. The information effect of price may also extend to favourable price perceptions by others because higher prices can convey the prominence and status of the purchaser to other people (McDaniel, 2012: 559).

Schiffman, Kanuk and Wisenblit (2009: 183) argue that consumers use price to evaluate the prestige of the product but do not generally use these cues when evaluating the performance. This implies that high purchase prices may create feelings of pleasure and excitement associated with consuming higher-priced products. Students are hedonistic smartphone consumers and may prefer high prices as a means of affirming the own self-worth and to satisfy ego.

### **2.3.3 Place: embedding the product offer into the customer's life**

Marketing channels are a set of interdependent organisations participating in the process of making a product available for consumption. In other words it is a set of pathways that a product follows after production, culminating in purchase and consumption by the final end user (Kotler and Keller, 2012:437).

Consumers today interact with many channels and have high expectations of the satisfying product experience. Moreover, customer experience has an impact on the channels, for example; good store image not only attracts more attention, interests and contacts from potential consumers but also increases satisfaction and positive word-of-mouth. In addition, distributing through a channel signals that the smartphone has good quality. Distributing intensely also has a positive impact on dimensions of customer experience, specifically, since the increase in distribution reduces consumer efforts finding and acquiring the

product, consumers are likely to perceive it as more valuable, which increases satisfaction (Yoo and Donthu, 2001).

#### **2.3.4 Promotion: promising experiences**

It is not enough to have good products; the benefits have to be communicated to produce a unified customer-focused message and, therefore, achieve various organisational objectives (Boone and Kurtz, 2007: 488). Furthermore, the smartphones' distinctive experiences generally lie in technologically innovative features that are hard or even impossible to observe from inspection of a product's surface attributes. Therefore, to help consumers identify and appreciate the product benefits, a promotional mix is proposed as a promising means to enhance consumers to learn about products (Houssi, Mord and Hultink, 2005: 554). Hence, the promotion mix includes various ways of communicating to customers of what the organisation has to offer. It is about communicating the experience structure, shaping expectations and forming brand promise rather than just talking about its features. Albeit promotional mix elements inform, persuade, create images and reinforce, people have own set of attitudes which lead to expectations about what a message should say about an object. Consumers take what conforms to the respective users' belief systems, ignore attributes which are discordant and add attributes which are consistent to their respective beliefs (Doyle, 1998).

However, the tools and strategies for communicating with customers have changed significantly with the emergence of the phenomenon known as social media, also referred to as consumer-generated media. This form of media describes a variety of new sources of online information that are created, initiated, circulated and used by consumers intent on educating each other about products, brands, services, personalities, and issues (Blacksha and Nazzaro, 2004: 2).

The 21<sup>st</sup> century is witnessing an explosion of Internet-based messages transmitted through these media. They have become a major factor in influencing various aspects of consumer behaviour including awareness, information acquisition, opinions, attitudes, purchase behaviour, and post-purchase communication and evaluation. Unfortunately, the popular business press and academic literature offers marketing managers very little guidance for incorporating social media into their internet marketing communication (IMC) strategies. Therefore, many managers lack a full appreciation for social media's role in the organisation's promotional efforts. Even though social media is magnifying the impact consumer-to-consumer conversations have in the marketplace, methods for shaping those conversations have not yet been articulated (Mangold and Faulds, 2009: 358).

## **2.4 BRANDING AND CUSTOMER EXPERIENCE**

According to Cornelis (2010: 776) brands are recognized by the values, beliefs and experiences that underpin them. Hence, customer experience equals brand experience. Furthermore, Hammond (2008: 14) claims that a brand is defined in the total emotional experience a customer has with the touch points of an offering. Put forth, it implies that the brand is an experience implanted in the mind of smartphone consumers. According to Brakus, Schmitt and Zarantonello (2009: 53), experience is initially shaped by impressions of the enterprise's brand. A brand is thus an offering of dimensions that differentiate it from other products designed to satisfy the same needs. A broader view of brand resides in the minds of consumer and it is a perceptual entity rooted in reality but reflecting the perceptions and idiosyncrasies of consumers (Kotler and Keller, 2012: 265). For instance, all the smartphones use computing and communication capabilities but each brand has a different name to differentiate them. Therefore, for customers, brands stand out to simplify choice, promise, and a particular experience, to reduce risk and engender trust (Keller and Lehmann, 2006).

Having a superior or a smart product is only the starting point. Today, competitors quickly imitate innovations, making functional advantages short-lived. The Verge (2013: 1) adds that the task of choosing smartphone in such a competitive market with products that are technical or rational grounds is too difficult, time consuming and expensive. The sheer volume of decision to be made every day, the pace of technology change, the number of competing alternatives and the bewildering variety of advertising and selling messages mean that the buyer searches for short routes.

Furthermore, reputable brand names provide confidence and allow customers to come out through the risks and complexity of choice within a crowd of choices. The brand plays a vital role in the process of customer preference and choice of products. A famous brand can communicate the benefits of the product and lead to delivery of information related to these benefits more than uncommon brands. Although there are many of unfamiliar brands in the market, customers prefer famous and known brands. A preferential famous brand, is not only attractive for the customer to buy the product, but also brings the pattern of repetitive purchase and reduces the switching behaviour resulting from the price volatility (Suki, 2013: 238).

### **2.4. 1 Brand experience sources**

#### **2.4.1.1 Experience of use**

Customers' brand perception may influence the customer experience. Doyle (2003: 169) claims that, if a brand provides good experience with regular use, it acquires added values of familiarity and proven reliability. According to Keller and Lehmann (2006), the new era has seen each brand develop unique experience

believed to make a product different from others. Therefore, each product is, today, more precisely known for its experience rather than its functions.

#### **2.4.1.2 Brand, expectations and perceptions**

Davis (2010) maintains that a brand is also a set of expectations and perceptions that results from the experience and the product touch points. Brands command customers' attention by possessing elements of saliency, differentiability, intensity and trust. A brand influences buyers when it conveys consistent experience and it shapes expectations and perceptions within consumers' minds (Kapferer, 2004). Brands may help to express some central component of consumers' identity. For example, research works indicate that the correct match between a consumer's personality and a perceived brand personality leads to higher overall satisfaction (Babin and Harris, 2013: 116). A brand shapes customers' expectations by embedding the fundamental value proposition in the offering of every feature (Meyer and Schwager, 2007: 3).

Jiang (2011: 6) suggests that brands are sometimes fashion statements. Fashion is the strongest net effect feature in smartphones. It influences expectations and perceptions in price and applications and is a strong indication of success in the industry. Hence, brands bear witness to smartphones being used as personal expressions of users' lifestyles. To cement this claim Nanda *et al.* (2008: 348) add that smartphones are an integral part of everyday life of users; and not merely computational devices but also personal expressions of the users' lifestyle. People are, therefore, biased to products that are compatible with the respective self-concepts or rather enhance the ideal self-images. Ownership of a brand transfers the meaning of products to consumers. By owning and using a brand, the smartphone can be part of the extended self. Therefore, the product's image should contribute to the consumer's self-concept.

According to Kang (2012: 69), consumers develop trust in a brand based on positive beliefs regarding the respective expectation for the behaviour of the organisation and the performance of products. Consumers form perceptions about the emotional and functional features of a brand from advertising and other information sources. Hence, perceptions originate from objective sources such as consumer reports or more subjective sources such as advertising or personal experiences. Overall, the perceptions contribute to the meaning of value that the brand adds to the consumer, that is, brand equity.

#### **2.4.1.3 Brand belief in efficacy**

According to Shihachi (2012: 35), consumers that are truly like the brand, their preferences may be based upon an association such as symbol, a set of use experiences or high perceived quality. Furthermore, building faith in a brand that generates satisfaction in use and can be created by comparative evaluations and rankings from customer associations, industry endorsements and promotional editorials. Therefore, to be truly

effective, a brand should succinctly capture the product offering in a way that answers a question in the customer's mind (Arruda-Filho, Cabusas and Dholakia, 2010: 478). Furthermore, for customers brands stand out to simplify choice, promise a particular quality level, reduce risk and engender trust (Keller & Lehmann, 2006).

#### **2.4.1.4 Brand appearance**

According to Azzawi and Ezeh (2012: 32), brand appearance is similar to human appearance; it has different durable features. Complementing the former idea, Marketing Minds (2012) noted that the Apple branding strategy focuses on the emotions and feelings, the brand appearance is all about life styles; imaginations; liberty regained; innovation; passion; hopes; dreams and aspirations and power-to-the people through technology. The Apple brand appearance is also about simplicity and removal of complexity from people's lives has a people - driven product design; and is about being a really humanistic organisation with a heartfelt connection with its customers. Apple has created brands that have a stylish appearance embedding innovations in product design that clearly affects preference by offering cues to quality.

#### **2.4.2 Brand equity**

Kotler and Keller (2012: 265-266) state that brand equity is the added value endowed on products and services. It may be reflected in the way customers think, feel, act with respect to the brand, as well as in the prices, market share and profitability that the brand commands. Customer-based brand equity is thus the differential effect that brand knowledge has on consumer response to the marketing of that brand.

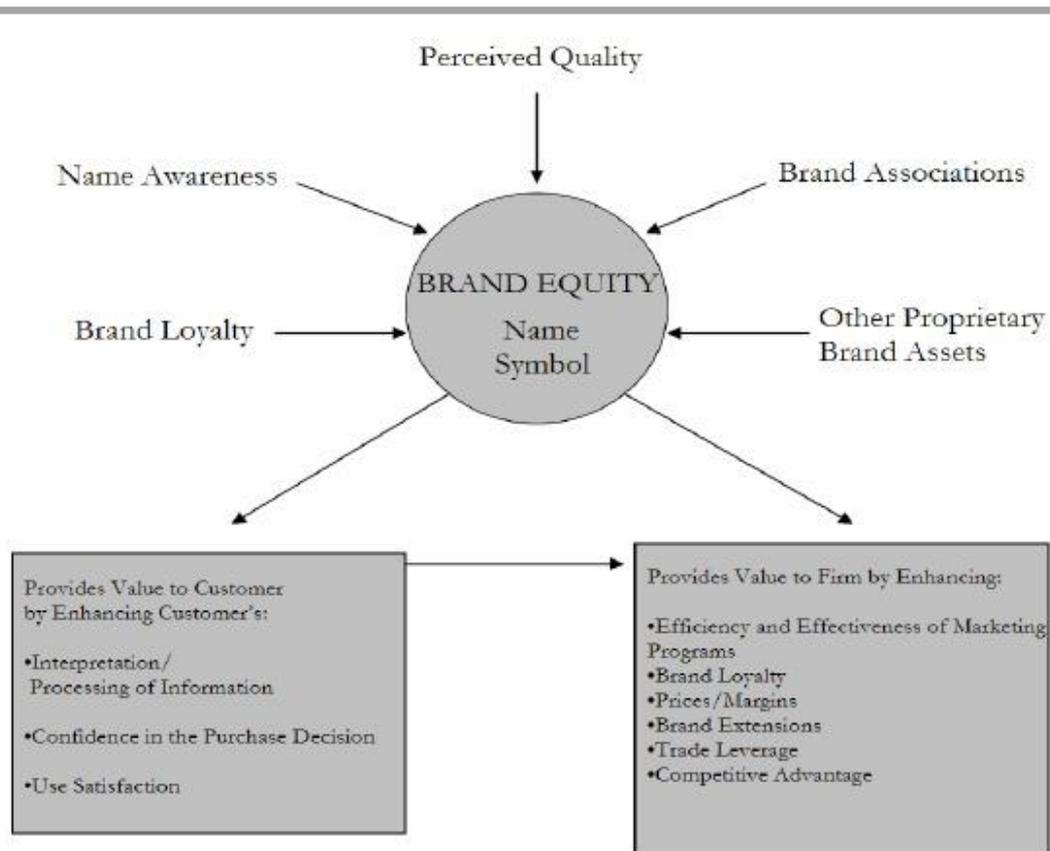
Brand equity is among the few strategic assets available to the companies that provide a long-lasting competitive advantage to the organisation. A brand with high equity means that the brand has the ability to create positive differential response in the marketplace. This can mean that your brand is easily recognizable when encountered in advertising or seen on a yard sign. It can mean that your brand is one of the first ones recalled when a relevant prompt is used. It could mean that individuals would be willing to pay a premium price for your brand's offering. Furthermore, it could mean that when someone asks for a referral, your brand is the first one that is recommended to others (Pulling, 2008: 1)

Customer experience can be deduced by studying positive and negative brand equity. Positive brand equity is when an organisation exceeds the customer's expectations. It is formed by efficient advertising, while negative brand equity is formed by things such as bad advertising. Consequently, a positive brand strategy usually is a strong barrier to entry for potential rivals (Mallik, 2009: 31).

### 2.4.2.1 Brand equity dimensions

Many marketers argue that, while brands do contribute with value to various constituencies, in the end, it is the consumer who first determines brand equity, (Kourovskaja, 2013: 2). Figure 2.4 illustrates the brand equity dimensions with the vendor and consumer perspectives.

**Figure 2.4: Brand equity model**



Source: European Institute for brand management (2009: 1)

Figure 2.4 illustrates the total value of the brand to both to the customer's experience and to the vendor. Hence, the brand equity is perceived as the set of brand assets and liabilities linked to a brand – its name and symbols which add to or subtract value from a product. Figure 2.4 also depicts that these assets are brand loyalty, name awareness, perceived quality and associations. This study will view brand equity mainly from the consumer's perspective. Therefore, a brand's meaningful difference should be amplified through all

aspects of the consumer experience. A consumer's impression of a brand is gained through a series of disconnected encounters with it.

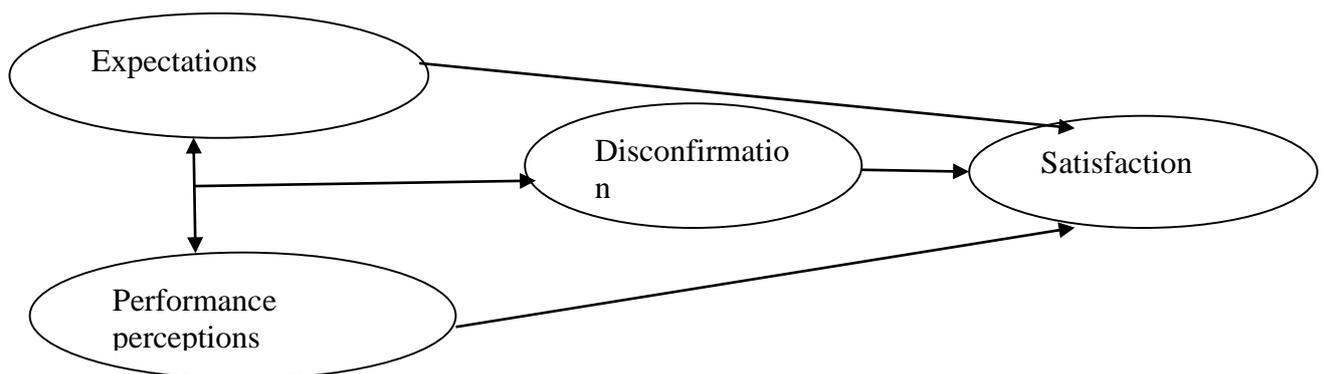
## 2.5 CUSTOMER EXPECTATIONS

Babin and Harris (2013: 289 - 290) postulate that expectations are pre-consumption beliefs of what will occur during an exchange and/or consumption of a product. Expectations reflect both past and current product evaluation and use experiences. Furthermore, they classify the following different types of expectations consumers bring to consumption experiences:

- **Predictive expectation:** mean expectations that a consumer thinks will actually occur during an experience;
- **Normative expectations:** refers to what the consumer thinks should happen, given past experiences with the product or service;
- **Ideal expectations:** refers to what the consumers really want to happen during an experience if everything were ideal; and
- **Equitable expectations:** are formed regarding what the consumer thinks should happen given the level of sacrifice put towards the experience.

In essence, simply put, customers expect experiences to do what they are supposed to do. Hence, they expect fundamentals, not fancies and performances not promises (Parasuraman, Berry and Zeithamal *et al*, 1991: 40).

**Figure 2.5: Basic disconfirmation processes**



Source: Babin and Harris (2013: 290)

Figure 2.5 demonstrates graphically how the expectations also can have a direct impact on satisfaction, independent of the role in the disconfirmation process. This can occur when the consumer has little involvement. Furthermore, Kotler and Keller (2012: 150) describe how buyers form expectations from the past

buying experience, friends' and associates' advices, and marketers' and competitors' information and promises. Therefore, if marketers raise expectations too high, the buyer is likely to be disappointed. If marketers set expectations too low, they will not attract enough buyers (although it will satisfy those who do buy).

According to the expectation–confirmation theory (Bhattacharjee, 2001; Thong, Hong and Tam, 2006), expectations exist as a norm against which actual experience is compared. High expectations in combination with poor performance, should lead to a very negative evaluation. Expectations are often cited as an integral part of human conduct and the ingredient resource for the formation of experiences. Post-purchase experience is, therefore, a result of comparison between expectations and actual performance.

### **2.5.1 Technological expectations**

According to Smith (2012: 1) technological expectations focus on the evolving state of the product category. Smartphones are continually evolving, leading to higher expectations of new feature. The availability of low profile phones with email, camera, MP3, blue tooth technology, and increased storage will change technology expectations as well as the static and dynamic performance expectations of the product. These highly involving products are not just feature based, but *raise expectations* that enhance perceptions of status, ego, self-image, and can even evoke emotions of isolation and fear when the product is not available.

Likewise, expectations link technical and social aspects, because expectations and visions refer to images of the future, where technical and social aspects are tightly intertwined. Furthermore, expectations constitute the missing link between the inner and outer worlds of techno-scientific knowledge communities and fields. At the same time, expectations and visions are often developed and reconstructed in material scientific activities and disseminated in obdurate and durable forms. In a sense, expectations are both the cause and consequence of material scientific and technological activity. Therefore, technological expectations are real-time representations of the future technological situations and capabilities (Borup, Brown, Konrad and Van Lente, 2006: 286).

## **2.6 CUSTOMER PERCEPTIONS**

Perception is a process by which people select, organize and interpret sensory stimulation into a meaningful picture of the world. In another words, the product is purchased not for itself but the promise of what it will deliver.

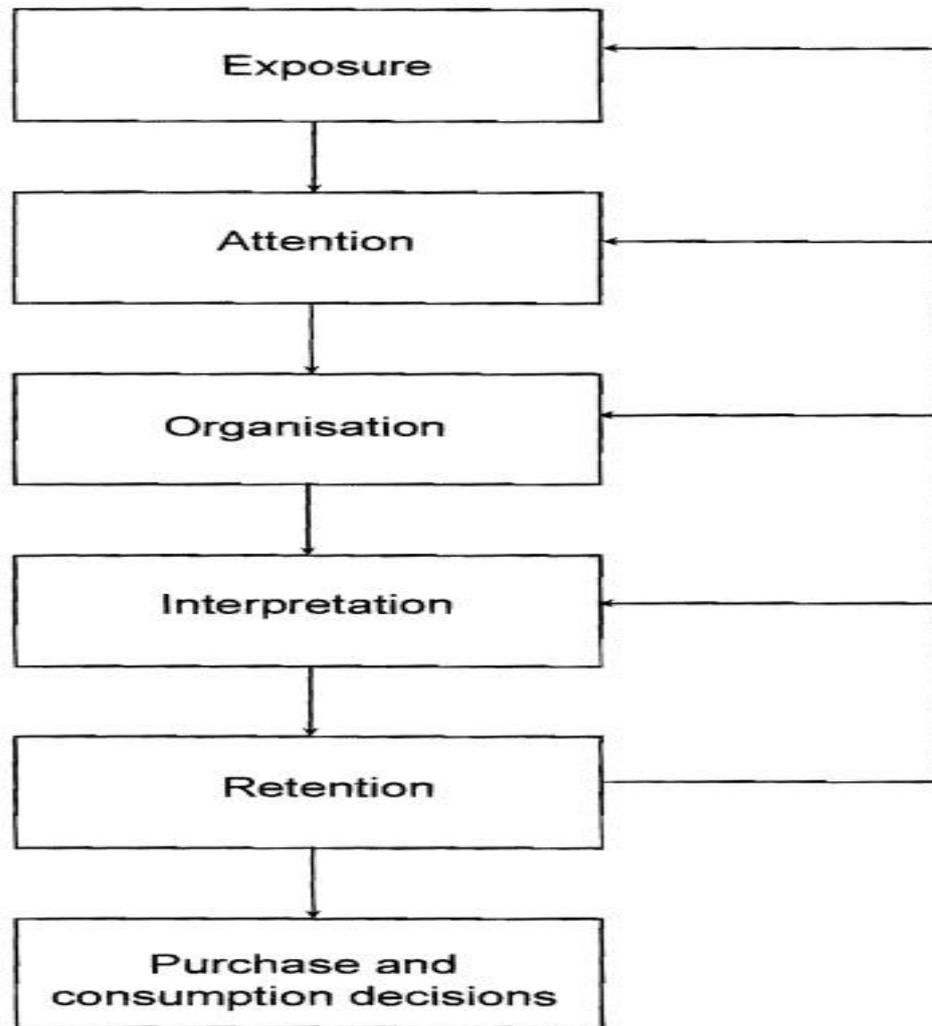
Furthermore, customer perception is a concept that encompasses a customer's impression, awareness and/or consciousness about the organisation and its offerings. In addition, it is normally affected by public relations,

advertising, reviews, social media and personal experience. Perceptions are very important as they shape the direction whether the customer will be satisfied or dissatisfied (Hollensen, 2010:36).

Quester, Pettigrew and Hawkins (2011:229) affirm that perception is the end result of the various processes the brain goes through; the brain goes through a number of processes before perception occurs. The process begins when a consumer is exposed to stimuli (objects, messages or events). For example, the mobile phone industry is marred by different operating systems used by modern smartphones such as Google's android, Apple's IOS, Nokia Symbian, Rim's Blackberry OS, Samsung BADA, Microsoft Windows phone, and Hewlett-Packard's web OS. These operating systems can be installed on different mobile phones and with each device receiving multiple OS software updates over its life span. The choice of smartphone brand is affected by various factors such as brand image, country of origin, brand awareness, brand quality and so on. Due to globalization, consumers have become much more aware, resulting in the perceptions of smartphones changing at a rapid pace. Furthermore, price and quality of the smartphone are considered to be important factors that affect the perceptions in smartphone experience (Khanuja, 2014).

Consequently, a traditional notion views perception as the outcome of interaction between characteristics or condition of stimuli and situational factors (Wozmiak, 2013: 105). Furthermore, to understand consumer perception one has to understand the culture of the consumers so that the behavioural patterns are well understood. The perceptions of consumers of a certain business and its products or services have an influence on purchasing behaviour and that's the reason why organisations have to market themselves. Organisations can market themselves by offering excellent customer services and other promotional strategies which can have an influence on the target customers. Good planning and execution organisations can influence consumers' perceptions and induce profitable consumer behavioural patterns. There is continuous synthesis of information that consumers have about an organisation so that they make a decision on whether the organisation is offering value for money. In other words, consumer perception is an approximation of reality. (Khanuja, 2014)

**Figure 2.6: The consumer perception process**



Source: Arens and Schaefer (2007)

### 2.6.1 Exposure

Figure 2.6 illustrates that exposure is the first step of the perception process. When one of the stimuli gets in contact with one of the senses of an individual, it results in the initiation of the perception process. Exposure is the minimum requirement of the perception. Irrespective of the content of the message, to have an effect, it has to make a contact with the individual exposed to the stimuli. Being in contact with a stimulus can be by accident or by intention (Hanna, Wozniak and Hanna, 2012).

### 2.6.2 Attention

Figure 2.6 demonstrates graphically that the attention process is very important, especially to the vendors. This is due to the fact that marketing campaigns are targeted at consumers. Without the consumers, the marketing cycle is not complete. If a customer is exposed to a stimulus but did not focus on it, then the

attention did not take place. In other words the attention process can be seen as an information filter in the perception process.

Peter and Olson (2014) state that the following three factors that affects attention:

- i. The stimulus – refers to a number of stimulus characteristics which will attract attention regardless of the individual characteristics. These stimuli are size and intensity, color, movement and contrast, position, isolation, format and information quantity;
- ii. The individual – factors the most important since it concerns the person’s interests or needs. The physical needs might make individuals become sensitive to the stimuli that can satisfy those needs and the same applies to interest; and
- iii. The situation – refers to stimuli in the environment other than the focal stimuli focusing mainly at one stimuli source, for example, advertisement or package. It is possible for one person to have different meanings to one stimulus in different situations. Advertisements should try to attract attention but care has to be taken not to divert interest from the important points of the message.

### **2.6.3 Organisation**

Furthermore, data in Figure 2.6 depict that individuals do not experience the numerous stimuli simultaneously as selected from the environment as a separate and discrete sensation. In actual fact, people tend to group them and perceive them as unified entities.

### **2.6.4 Interpretation**

In essence, the interpretation phase refers to the drawing of experiences, memory and expectation to interpret and attach a meaning to the stimuli. Individuals may interpret the same stimulus differently. A person’s inclination, bias and expectations of the individual, will influence the way he/she will interpret a stimulus (Hanna, Wozniak and Hanna, 2012).

### **2.6.5 Retention**

The retention phase refers to the actual storage of the information in the memory of an individual. Memory is very important in the guiding of the perception process. Memory can have a long-term storage component and a short-term active component. Long-term memory is activated by supplying past relevant stored information. The short-term memory is the active component and it deals with problem solving using newly acquired information. Retention is of short-term in nature and sometimes it is referred as being temporal in nature. (Peter and Olson, 2014)

## 2.7 CUSTOMER SATISFACTION

According to Baidya and Basu (2009: 815), satisfaction is derived from the customer's perspective rather than the manufacturer. Simply put, customer satisfaction is a positive or negative feeling that is brought about by comparing pre-consumption and post-purchase experience (Tsai, Tsai and Chang, 2010). Furthermore, if the performance does not meet expectations, the customer is dissatisfied. If performance meets expectations, the customer is satisfied. If it exceeds expectations, the customer is highly satisfied or delighted (Kotler and Keller, 2012: 14). Expectations are used as a standard to measure actual experience. Furthermore, Kotler and Keller (2012: 194) claim that actual experience is judged from what the satisfaction is rather than the function of the balance between expectations and the product's perceived performance. To add on, due to the fact that customer satisfaction relies on service and product performance, satisfaction will affect repurchase intention and behaviour. Hence, customer satisfaction is the product of what the customer was expecting from the product and what is actually experienced. Therefore, the larger is the gap between expectations and performance, the greater the dissatisfaction.

Using the notion that customer satisfaction is a positive or negative feeling brought by comparing pre-consumption expectation and the post-consumption experience, it can be implicated that the actual experience or product performance is judged according to what the customer is expecting; the expectation is used as the standard to measure the actual performance (Tsai *et al.* 2010).

Satisfaction is shaped by product and service features, customer emotions, and attribution of success or failure, perception of equity or fairness and members of the family (friends or customers). Satisfaction is, therefore, the difference between perception and expectation. If a customer perceives expectations to be met, then the customer will be satisfied and, if not met, the customer will be dissatisfied and have negative experiences. Furthermore, when a customer is happy, the customer will return and, consequently, continued satisfaction will lead to loyalty Zeithaml and Bittner, (2003), cited by (Marković , Raspor and Klaudio, 2010).

Fundamentally, due to the fact that customer satisfaction relies on service and product performance, satisfaction will affect the repurchase intention and the post-purchase behaviour. Customer satisfaction is the product of what the customer was expecting from the product and what is actually experienced. When customers are satisfied, they will continue to do business with the same organisation. This shows that customers will be easy to retain. Customer satisfaction will lead customers to buy other services and products of the organisation due to happiness. This may lead customers to become loyal to the organisation. There is a positive relationship between customer satisfaction, repurchase and customer loyalty. This means that customer satisfaction might lead to repeat purchase and loyalty (Lin, Tseng, Hung and Yen, 2009). Furthermore, studies have shown that there is a positive relationship between customer satisfaction, customer behaviour and customer loyalty. If customers are satisfied with the organisation's services, it spurs

repurchase. This will work to the organisation's advantage because customers might end up doing cross buying. In other words, understating customer needs, meeting customer expectations and offering value lead to satisfaction. However, satisfaction is the foundation for loyalty and the organisation's profitability (Lin *et al.*, 2009).

The method adopted by the researcher and several other authors understand satisfaction better by comparing the perception experiences with the customer expectation experiences, known as the expectation disconfirmation model. When customers perceive as if the expectation has been met, satisfaction takes place. When expectations are not met, it will give a negative feeling and results in dissatisfaction. The expectancy disconfirmation theory clearly shows that satisfaction with a product or service will make a customer to continue to patronize that organisation while those customers who are not satisfied will end up changing the service provider or even shift to competitors (Buttle, 2009: 44).

Huang, Wang and Chen (2011) found that customers are difficult to satisfy when the customers have high expectations. Improvement in economic conditions in developed countries can make customers have higher aspirations and will be able to demand more, and this will mean the expectations for products and services rise at the same time. This means that, in highly developed countries, customer satisfaction can be difficult. In other words, customers in developed countries have higher expectations that are difficult to satisfy. However, in developing countries, customers have lower expectations and satisfaction is not difficult. Deducing from this view, the study will consider university students who have higher expectations.

### **2.7.1 Customer satisfaction and experience**

Some organisations have discovered that there is a positive relationship between customer satisfaction and employee satisfaction. When front desk employees are treated with respect by management, they will then treat customers the same way. Given this positive relationship, it is therefore important for organisations to see that the best people are recruited and rewarded. If the employees are happy with the job, smiles and giving customers first class experiences will result naturally (Kotler and Keller, 2009: 406-407).

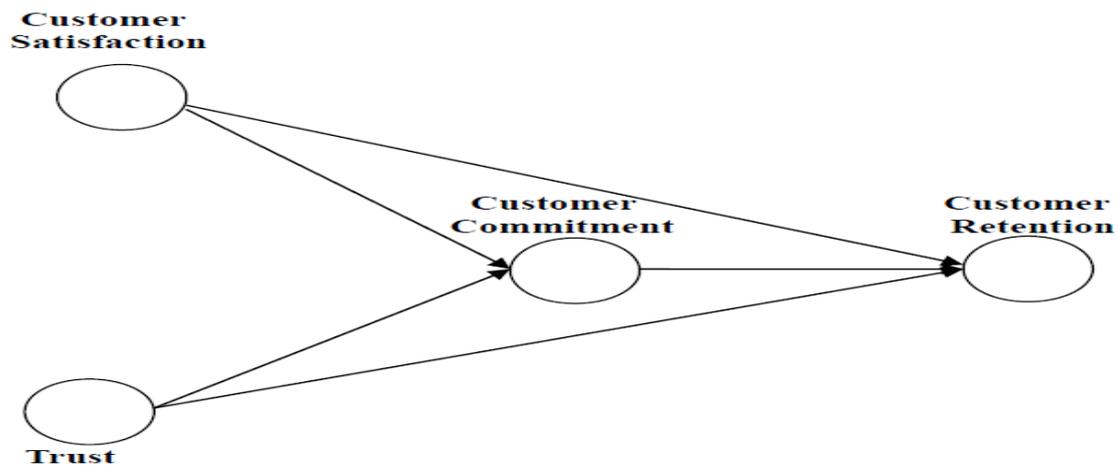
Organisational loyalty is not guaranteed by satisfaction alone because, on average, about 85% of customers that switch are satisfied customers. A large percentage of loyal customers are satisfied, but satisfied customers are not generally loyal customers (Reichheld, 1996: 124-136). This shows that achieving satisfaction alone is not enough to guarantee total loyalty, but a combination with other variables like offering value, being trusted and making customer committed is the way to go.

In service industry, if organisations, like banks and smartphone manufacturers, handle customer queries satisfactorily, it will have a direct effect on trust, commitment and creation of loyalty on customers (Chipunza, 2008). Studies have shown that, when customers experience a problem with a service provider and the problem is properly handled, the customers will become more loyal (Kotler and Keller, 2009: 168-169). Organisations, like smartphone manufacturers, must take complaints as gifts, not as a burden because it has an effect of creating customer loyalty, if handled well. Furthermore, complaints give the organisation an opportunity to improve its areas of weakness. Mobile phone manufacturers must also take customer complaints as vital feed-back as this will lead to improvement on how the phone operates and it also lead to competitiveness.

Albeit many authors believe that customer satisfaction leads to customer loyalty, some authors believe that loyalty does not exist and only exists in finer institutions like church, school, community and family (Ackermann and van Ravesteyn, 2006). Reinartz and Kumar (2002) are of the view that, the relationship between loyalty and profitability is also questionable. On the same token, Zolfaghari (2011) elaborated that some organisations don't benefit in loyalty strategies. When customers are loyal, there is no logic offering loyalty programs. Furthermore, the financial benefits are questionable. Even though, customer loyalty has been criticized, its existence and contribution to profitability and retention cannot be doubted. Customer loyalty exists and is not dead because there are people who, just like a certain shop or product, have no reason as to why the shop or its products are preferred. If the prices go up, they will never stop patronizing the shop or buying its products (Soman and Marand, 2010: 382-383).

Customer satisfaction and trust are vital components of customer experience. The two variables result in better customer commitment. The combination of customer satisfaction, trust and customer commitment will lead to higher customer retention (Eppie, 2007: 8). In other words, it means that the higher the customer commitment, the better it becomes to retain customers, which means that there is a positive relationship between the two. Committed customers have a lot of benefits to an organisation, as shown graphically in Figure 2.7.

**Fig 2.7: The predictors of customer retention**



Source: Eppie (2007:8)

Figure 2.7 shows that marketers need to build trust with customers in combination with customer satisfaction as this will induce good customer experience and, hence, customer commitment. Customer commitment is important as it will lead to customer retention. Retained customers place frequent orders, used as a barrier to entry, are price insensitive and, in the service industry, will not defect because of a 5% increase in charges/price. Retention is advantageous to organisations because customers spread the good word-of-mouth and retained customers tend to buy more and don't look much at the price (Brink and Berndt, 2008: 43).

Thus, Babin and Harris (2013: 288) state that customer satisfaction is a mild, positive emotional state resulting from a favorable appraisal of a consumption outcome. Hence, several points distinguish consumer satisfaction from other important consumer behaviour concepts:

- Customer satisfaction is a post-consumption phenomenon because it is a re-action to an outcome;
- Like other emotions, satisfaction results from cognitive appraisal. Some refer to this appraisal as the satisfaction judgment; and
- Satisfaction is a relatively mild emotion that does not create strong behavioural re-actions.

Other key consumer variables, like expectations, quality, or attitude, are also included in pre-consumption or even pre-purchase in explaining consumer behaviour.

### **2.7.2 Customer satisfaction in the smartphone industry**

A study carried out in the USA by McGraw-Hill Financial (2013) showed that when customers are looking for a smartphone they consider: its performance, physical design, features and ease of operation. Table 2.1 shows the results in terms of importance of the smartphone features.

**Table 2.1: Smartphone features**

<b>The Variable</b>	<b>Percentage</b>
Performance	33%
Physical design	23%
Features	22%
Easy of operation	22%

Sources: McGraw-Hill Financial 2013

Table 2.1 shows that when customers in the USA want to buy a smartphone, they consider its performance first. Of all the people interviewed, 33% preferred a smartphone with good performance, followed by its physical design with 23%. The phone's features and ease of operation are on third place, both with 22%.

Apple and Samsung have the most satisfied customers of smartphone users. Samsung has the most satisfied customers and this is due to two reasons. The first one is that consumers like a phone with a big screen that can be used for watching movies and other uses. Secondly it is because of the price which is affordable, together with its customer value. However, iPhone users are more loyal than any other Android users. This is also happening in the tablet market. Samsung is gaining ground while Apple is losing ground to Android device manufacturers while Samsung is at the top. Blackberry remains firmly at the bottom of all smartphones in term of customer satisfaction (Hof, 2013).

Customer satisfaction is, therefore, noted as a positive attitude towards the use experience. It is affective state of freedom from discomfort and of representing a favorable emotional reaction to the system use experience ISO 924-11, 1998, cited by (Mckinney *et al.*, 2002).

## **2.8 COGNITIVE DISSONANCE**

Babin and Harris (2013: 294) state that dissonance refers to lingering doubts about a decision that has already been made. Furthermore, the balance theory states that consumers prefer consistency among the beliefs. Therefore, the consumer experiences discomfort due to doubt that creeps in when the consumer realizes there were many other attractive smartphones available, for example, in addition to the one purchased. The marketer's job, therefore, does not end when the product is bought (Armstrong and Kotler, 2011: 181).

### **2.8.1 Cognitive dissonance theory**

A little more closer to 60 years ago, Leon Festinger postulated a theory of Cognitive Dissonance (1957), which is based on the assumption that each individual strives towards consistency in his/her opinions, attitudes, and values and, towards consistency in psychological attributes and the behaviour resulting from them Festinger, (1957), cited by (Mathis, 2014). Furthermore, he state that two elements are in a dissonant relation if,

considering these two alone, the obverse of one element would follow another. Dissonance is known to arise mainly in three ways. First, any logical inconsistency can create dissonance. Second, dissonance can be created when a person experiences an inconsistency either between the consumer's attitude and the behaviour or between two of the behaviours. Third, dissonance can occur when a strongly held expectation is disconfirmed.

However, it must be noticed that, in all the above mentioned three conditions, dissonance is not automatic. Rather it is imperative for a consumer to perceive the inconsistency; otherwise, no dissonance will occur. Further, dissonance occurs once a decision has been made as, prior to making a decision, an individual had an option of adjusting to any attitude or behaviour which he deemed right as per his/her choice. However, once a decision is being made, a commitment has been established between the buyer and the consumer, where he/she cannot further adjust himself/herself and is liable to stick to his/her decision. This commitment and restriction might invoke dissonance in the consumer (Hasan and Nasreen, 2012: 7).

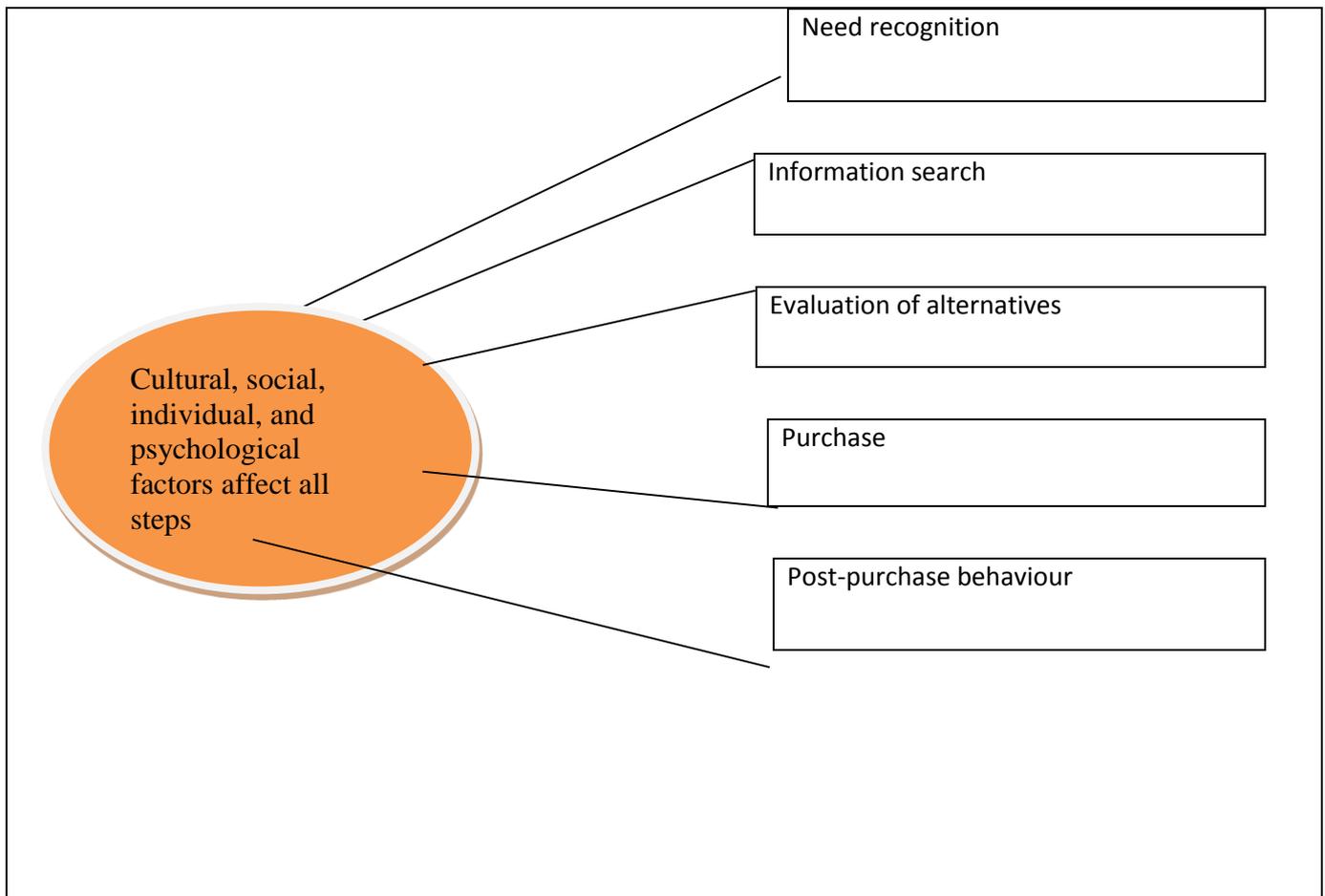
Literature reviews a somewhat similar theory to post-purchase dissonance which is consumption guilt. Hawkins *et al.* (2001: 630) state that consumption guilt occurs when some negative emotions or guilt feelings are aroused by the use of a product or service. Furthermore, the following quote illustrates consumption guilt quite clearly.

I have to count calories much more than I did before. I still buy sundae once in a while but the joy of eating ice-cream will probably forever be connected with the guilty over eating something so unhealthy. When I think about it, I realize that most products make me feel good and bad at the same time.

In these schools of thought, cognitive dissonance and consumption guilt, therefore, occurs between two different sets of cognition. In fundamental nature, consumers' lives are very intertwined with consumption. From a utilitarian standpoint, the meaning of consumption is straightforward. Consumers buy shoe polish to polish shoes. However, with hedonic component of consumption, it is not straight forward. Value is affected largely by the meaning of goods, services, and experiences. Marketers, therefore, work to transfer important ideals or values into the products via advertising and word-of-mouth that occurs between consumers. Furthermore, if an unfavorable appraisal is the outcome, this implies that consumers react differently to negative contexts, meaning that dissatisfaction will explain behaviours that satisfaction cannot (Babin and Harris, 2013: 288).

A simple buying model is commonly accepted in the literature to describe the stages a consumer goes through when making a buying decision to explain the perceived rational, cognitive process (Egan, 2007: 54). Cognitive dissonance can categorically be found not only in the post-purchase stage but is easily visible in the pre-decision stage as well (Koller and Salzberger, 2007). Dissonance has the power to make the complete buying experience as sour and unfriendly. The decision processes comprises the following elements as illustrated, in Figure 2.8:

**Figure 2.8: Consumer decision making process**



Source: McDaniel *et al.* (2012: 190)

### **2.8.1.1 Need recognition**

Need recognition occurs when consumers are faced with an imbalance between actual and desired states that arouse and activate the consumer decision process. Simply put, needs are aroused when individuals see differences between the current state and desired state (Quester *et al.*, 2010: 500). A desired state is the perceived state for which the consumer strives (Babin and Harris, 2013: 254).

### **2.8.1.2 Information search**

Information search occurs after recognizing a need or want. Consumers search for information about the various alternatives available to satisfy it. In an era of marketing, where a consumer is spoilt with a plethora of choices regarding the product to buy, it is difficult to avoid a situation of confusion which leads to dissonance among the consumers. However, consumers make efforts in different ways to reduce the conflicting views which arise in the mind.

Therefore, this stage, the consumer information search should yield a group of brands, sometimes called the buyer's evoked set or consideration set, which are the consumer's most proffered alternatives (McDaniel *et al.*, 2012: 193).

#### **2.8.1.3 Evaluation of alternatives**

In this stage, a consumer narrows the number of choices in the evoked set, for example, by picking a smartphone attribute and then excludes all brands that do not have that attribute. To further elucidate, consumers are exposed to a variety of smartphone brands from an information search. Using the information searched, alternatives are weighed and categorized (Schiffman, Kanuk and Wisenblit, 2010: 488).

#### **2.8.1.4 Purchase**

Once the consumer has recognized a need, searched for information and evaluated alternatives, he/she is ready to purchase the chosen product. According to Travagli (2012: 12), once the innovation is purchased, the consumer evaluates its performance, based on the actual consumption and on former expectation. This produces a feedback that will strongly influence the diffusion of the innovation.

#### **2.8.1.5 Post-purchase behaviour**

How well the expectations are met determines whether the consumer is satisfied or dissatisfied with the purchase. According to Hasan and Nasreen (2012: 8), after making a desired decision, consumers may feel that, by choosing a certain brand, consumers have forgone the positive traits of an alternative brand which they could have possessed if they had chosen the alternative brand. The guilt might get accentuated if consumers bought brand that does not perform as per the desired expectations of the consumers. In such a scenario, the consumer might ignore the positive traits associated with a product and consider them redundant. Albeit dissonance can be felt by the consumer at any stage during the buyer's decision making process, it is during the post-purchase stage that dissonance could cause even emotional discomfort in the consumer's mind.

Figure 2.8 illustrates that, when buying products, particularly new or expensive, consumers generally follow five steps: need recognition, information search, and evaluation of alternatives, purchase and post-purchase behaviour. However, Egan (2007: 54) is of the view that marketers need to use this model with care, understanding that it is only a model and, in reality, redundancy can, and does, occur at every stage. It assumes that consumers have perfect knowledge which is not true in real life. The model can be used as a basic model to understand consumer decision making, but the afore-said limitations need to be acknowledged.

## **2.9 CONCLUSION**

The chapter reviewed customer experience as a phenomenon, focusing on its determinants and dynamics. The traditional set of controllable marketing mix elements, namely; product, place, promotion and price were used to discuss the smartphone in the context of customer experience.

The following chapter will discuss the research methodology of the study.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

The previous chapter developed a conceptual framework for the product, namely, the smartphone. It was observed that, no matter how the smartphone can be deemed smart, the product will always be exposed to suggestions of change. This chapter will focus on the research methodology of the study. A quantitative approach was applied to study students' expectations against the subsequent perception experiences with smartphone usage. A series of steps were designed to facilitate the data collection, measurement phase, the analysis and presentation of data. It is, therefore, the aim of this chapter to discuss the series of steps undertaken to investigate students' experience.

#### **3.2 RESEARCH OBJECTIVES**

The primary aim of the study was to investigate customer experience with smartphones from the university students' perspective. This aim was sub-divided as follows:

- To examine actual students' experience with smartphones relative to the expectations and actual perceptions;
- To establish student satisfaction levels at all contact/touch points;
- To indentify key drivers of smartphone usage and preferences; and
- To establish post-purchase behaviour amongst students using smartphones.

#### **3.3 HYPOTHESES**

Looking at the study objectives and literature, the following hypotheses were formulated:

- There is a statistically significant difference between the expected experience and perceived experience of the subjects.
- There is a statistically significant difference among the influence of the biographic variables (age, gender and length of smartphone use) on the study dimensions.

#### **3.4 RESEARCH DESIGN**

Research design explains the structure of the study in a way that will address the research questions and objectives. According to Cooper and Schilinder (2006: 146 and 762), research design is made up of the structure of design, focus, time dimension and conditions. This study adopts a quantitative approach in which collection was through secondary data and questionnaires. Torriola (2006) describes data collection sources

such as oneself, literature, observations, interviews and questionnaires as data triangulations. For the purpose of this study, only two data sources will be used, that is, literature and questionnaires.

### **3.4.1 Quantitative design**

The research is quantitative in nature. In essence, a series of steps with overarching strategy for the collection, measurement, analysis and presentation of data is a research design (Gray, 2009: 131). Quantitative design was used to form the framework of the entire research. According to Babin and Harris (2013: 17), quantitative research addresses questions about consumer behaviour using numerical measurement and analysis tools. The measurement is usually structured likewise. A structured questionnaire was used to elicit data using the Likert scaling. The scale used the anchor of **1** strongly agree, **2** agree, **3** uncertain, **4** disagree and **5** strongly disagree. Questions one and two provided alternatives from which respondents had to choose. The questionnaire collected specific narrow responses analyzed in the next chapter of the research.

### **3.4.2 Study site**

Smartphones are the most popular device for university students, being almost ubiquitous on the campuses, with 98.5 per cent of students in the USA owing one or more (Donner and Gitau, 2009: 17). Within the borders, 93 per cent of South African students log on to Facebook at least once a day reveals (Shambare and Mvula, 2011: 10557). Due to the perceived high levels of smartphone usage amongst university students the researcher selected DUT as the target population. In addition (SAinfo 2012: 1), from the possible 23 public universities in South Africa, one university was selected due to the resource constraints. The researcher was enrolled at DUT at the time of the survey. Therefore, the accessibility of fellow students enhanced the arrangement for the purpose of convenience sampling.

## **3.5 TARGET POPULATION**

Churchill, Brown and Suter (2010: 327) define target population as all the individuals or objects that qualify certain requirements to be members in a certain group. These are the subjects targeted for research as they will provide all the variables of interest used to make inferences. An approximated 23 000 DUT students comprise the population of the study. It was not possible to evaluate the entire population because of its size and also lack of resources. Therefore, a sample was selected.

## **3.6 SAMPLING**

Chisnall (1992: 55) succinctly describes sampling as a theory concerned with the study of relationships existing between a population and the samples drawn from it. Through the process of statistical inference, certain conclusions can be drawn about a population from a study of samples taken from it. Pithily, a sample is a microcosm of the population from which it is drawn.

### **3.6.1 Sample size**

According to Alpaslan *et al.* (2010: 164), sample size refers to the number of elements in a sample. It is presumed in quantitative research that, the larger the size of the sample, the greater its precision or accuracy (Dawson, 2002: 49). Albeit the increase in sample size contributes some measure of great reliability, inevitably there are constraints that the practical researcher had to consider. These can be listed as time, staff-research assistants and cost (Chisnall, 1992: 93).

A sample size larger than 30 and less than 500 is presumed appropriate for most research studies. Furthermore, where samples are to be broken down into subsamples, a minimum sample size of 30 for each category is necessary (Sekaran and Bougie, 2010). However, what is probably useful are the easy to read and use tables that have been developed to calculate sample size, while taking into account; the variance (or heterogeneity) of the population, the magnitude of acceptance of error, the confidence level and the kind of analysis to be undertaken (Gill and Johnson, 2005: 103). For a population of 20 000, the tables suggest a sample size of 377.

Based on these authors cited and relying on the available budget, the study used a sample size of 386 students out of approximately 23 000 students. Since the survey was carried out using DUT's City campus, ML Sultan campus, Steve Biko campus, Riston campus, Brickfield campus and the Riverside campus, subsamples of 64 questionnaires were used to conduct the survey per campus and 66 from the ML Sultan campus.

### **3.6.2 Sampling method**

There are two basic methods of sampling, that is, probability and non-probability. With probability sampling, every element has a known and equal likelihood of being selected (McDaniel and Gates, 2008: 339). On the contrary, non-probability sampling, individual units do not have a chance of selection. In non-probability sampling, there is no guarantee that each member of the population has a chance of being included (Diamantopoulos and Schegelmich, 2000: 11-13).

The non-probability sampling method was used for the purpose of this study. Convenience samples were used, as the name implies, for reasons of convenience (Gray, 2009: 153). In this approach, voluntary informants were selected on different campuses until each sub-sample of 64 respondents were used. Here, the process was done purely on the basis that the informants selected were the ones conveniently available to provide the information. The principal researcher surveyed a total of 386 students with the help of two research assistants.

### **3.7 DATA COLLECTION**

This step was the central hub of the research; the survey methodology was put into practice, primary data were collected by administering questionnaires and secondary data were collected using desk research. The data were collected over three months from October to December 2013. The questionnaires were administered to voluntary respondents around the campuses. The questionnaires were administered with the help of research assistants. The collection of data was cheap, convenient and there was a high response rate.

#### **3.7.1 Questionnaire**

A questionnaire is a pre-formulated written set of questions to which respondents record the answers, usually within rather closely defined alternatives (Sekaran and Bougie, 2013: 147). The aim is to find out what a selected group of informants do, think or feel (Collis and Hussey, 2005). In addition, a questionnaire obtains specific information about a defined problem so that the data, after analysis and interpretation, result in a better appreciation of the problem (Chisnall, 1992: 109). The overriding objective is to translate the researcher's information needs into a set of specific questions that informants are able and willing to answer (Malhorta, 2011: 176). Survey questionnaires were used to collect primary data in this study by way of face-to-face self-administering.

##### **3.7.1.1 Questionnaire design**

Brace (2008: 1), states that the design of a questionnaire is critical to ensure that the correct research questions are addressed and that accurate and appropriate data for statistical analysis are collected. Experts, on the other hand, agree that there is no easy way to do this; it remains largely a matter of art rather than science. Fortunately, there are some general principles which helped the researcher in the design of the questionnaire. The questionnaire was designed using the literature review as a foundation and research objectives were used to build the purpose and structure of the instrument. The purpose and structure were important in the design of the questionnaire, as was the wording of the questions. Questions were designed with the target population in mind taking into account the education level and experience.

##### **3.7.1.2 Questionnaire content**

Questions are the raw materials of a questionnaire, and on them a pre-determined sequence was laid out to collect data from a sample to represent a defined population (Fox and Bayat, 2008: 94). The questionnaire contained six themes/categories focused on gathering the following information:

**Question 1:** Biographical information (age and gender) was requested and was inevitable for descriptive statistical analysis strategies. Malhorta (2011: 194) highlights that opening questions should be fairly easy to answer and build up on informant's confidence;

**Question 2:** The second category of questions focused on students' preferred brands and preferred uses for the smartphones. This section also focused on the post-purchase experience of preferred brands and use;

**Question 3:** The third category of questions focused on the gap between expectations and acquired perceptions;

**Question 4:** The fourth theme concentrated on the elicitation of satisfaction or dissatisfaction derived from the smartphone attributes;

**Question 5:** The fifth set of questions delved in cognitive dissonance in the consumer's mind; and

**Question 6:** The final category focused on the changes/suggestions to improve experience. The product will always be exposed to suggestions of change no matter how it can be deemed smart. In other words, embedding a product into user interface means embedding a source of dynamics into them (Hakanson and Waluszewski, 2005: 113). Therefore, the last section explored what the students wish to change in a smartphone to improve their experiences.

The questionnaire was constructed with closed questions to elicit responses which were strictly limited. The respondents were offered a choice of alternative replies from which they were expected to select an answer corresponding to their personal experiences and views. According to Schmidt and Hollensen (2006: 151), two types of questions can be identified, that is, closed questions which were mainly used in the questionnaire and open-ended questions. The open-ended questions were only used in situations where respondents were expected to indicate other responses that were not specified in the questions. Instructions were put exactly where that information is needed. The five point Likert scale was used to structure the questions. The categories were arranged in a logical order, and respondents were required to select the categories that best described their experiences. The end points which were 1 strongly disagree and 5 strongly agree it made them easy to tabulate, analyze and draw inference.

### **3.7.1.3 Pre-testing**

The questionnaire was pre-tested in June 2013 at M L Sultan campus, under conditions which reflect in miniature the main survey. Ten students were conveniently selected to participate and requested to identify challenges that they may have encountered. Questions 2 and 6 were open-ended in the pre-test, with the aim of generating fixed-choice answers. The principal researcher and one research assistant conducted the pre-test.

The respondents took 15-20 minutes to complete the questionnaire. Albeit the respondents indicated that wording and phrasing were easy to understand, some highlighted that question 3 was not clear of what had to be done. The researcher had to restructure question 3 for clarity. Feedback was used to amend the

questionnaire and the results were not used in the final findings of the survey. The amended questionnaire was, therefore, used to collect data from the sample identified.

#### **3.7.1.4 Ethical issues**

All research raises ethical issues. These are issues concerned with the consequences that the research brings to the environments of study. Therefore, all social science researchers need to have a clear understanding of the way in which dilemmas can arise when carrying out research (Henn, Weinstein and Foard, 2009: 79). To act in accordance, the researcher had to seek official permission from the Institutional Research Ethics Committee (IREC) at the Durban University of Technology. Letters of request, copy of the questionnaire and the approved research proposal were sent to the IREC board, to seek the institutional consent before the survey was conducted. Only after permission was granted, the questionnaire was then administered to the target group. The questionnaire was administered at the DUT campuses, using conveniently available respondents. A letter of consent was attached to the questionnaire and explained to each and every participant. The questionnaire maintained confidentiality by not asking personal information.

#### **3.7.1.5 Sample realization**

The principal researcher, together with two assistants, administered 386 questionnaires at six DUT campuses. The subjects were selected at random and participation was voluntary in terms of accessibility and proximity to the researcher. The principal researcher and his two assistants were all students at the DUT during the data collection period which spanned from October to December of 2013. Therefore, fellow student volunteers were used as respondents for the research. The assistants selected among post-graduation marketing students, who well informed with the subject matter at hand to answer any queries about the questionnaire completion. The researcher/assistant administered the questionnaires in person and collected them after the respondents had completed them. The principal researcher targeted 64 respondents at each campus and 66 at the ML Sultan campus.

#### **3.7.2 Desk research**

According to Salkind (2003: 49), secondary sources are those that you seek out if you are looking for a scholarly summary of the research that has been done in a particular area or if you looking for further sources of references. However, it is easy to take the view that, once a set of data has been drained of further insight, what in other words, could possibly be gained by going over the same data that someone else analyzed. In fact, data can be analyzed and used in so many ways that it is very unusual for the range of possible analyses to be exhausted (Bryman and Bell, 2007: 320). Therefore, desk research or documentary review, which has the attractive attribute of being non-reactive or unobtrusive, was used to establish methods of collecting and analyzing information that relates to the subject under study. Desk research was also used to consider the

impact of a certain variable on the relationships between variables under scrutiny. Furthermore, these sources were used to aid the compilation of data analysis and reporting. The documentary review examined journals, books, newspapers, magazines, database sources of the DUT and the internet.

### **3.8 DATA PROCESSING**

After the administration of the questionnaires was completed, data was manipulated into usable form for the purposes of analysis and interpretation. According to Zikmund and Amico (2001: 142), processing is done systematically over a sequence of operations.

#### **3.8.1 Editing**

McDaniel and Gates (2008: 391) state that editing is a process of ascertaining that the questionnaires were completed. Furthermore, editing involves checking for interviewer and respondent mistakes. The researcher checked all the questionnaires to ensure that the information was complete. The researcher checked every question of every questionnaire to see that it was either answered or omitted. Editing is, therefore, a slow, laborious task, perhaps unexciting compared with other activities in the research (Chisnall, 1998: 355).

#### **3.8.2 Coding**

McDaniel and Gates (2007: 396) describe coding as the process of grouping and assigning numeric codes to various responses to ease collection of data into a limited number of categories. Codes were printed on the questionnaires to enable the researcher to pre-code the responses. The codes used were based on the work carried out at the pre-testing stage of the survey. Therefore, data are coded in order to ease the capturing process (Wiese, 2008: 11). Data was then captured into a software package using the DUT statistician.

#### **3.8.3 Data cleaning**

Data cleaning as data cleansing deals with detecting and removing errors and inconsistencies from data in order to improve the quality of data. This process was undertaken to validate the missing information and erroneous data. Incomplete data affect reliability and validity of the data; missing information reduces the sample size available for the analyses and errors are costly to the study because a lowered reliability attenuates the results. The researcher designed a convenient sampling data collection method, whereby questionnaires were handed out for completion on the spot to volunteers thereby enabling checking for missing and erroneous data just after completion. Missing data were filled as soon as they were dictated. Pre-testing the questionnaire was done to curb erroneous data. The cleaning of data was done to prepare for data analysis (Davis, 2010: 326).

### **3.9 DATA ANALYSIS**

This stage was used to develop the final series of the survey. An analysis was done to organize and clarify data so that they become more comprehensible to solve the research question. This was achieved by using tabulations and relevant statistical calculations.

#### **3.9.1 Descriptive statistics**

Results were summarized using tables, charts and descriptive statistics to describe central positions. The mean was used and to measure spread, and percentages and frequency charts were also used. However, these statistics did not allow deriving conclusions beyond the data analyzed or reach conclusions regarding research objectives. It was simply used to present data more clearly. Therefore, descriptive statistics were used to visualize what the data were showing. In other words, data were presented in more meaningful ways, which set the stage for interpretation.

#### **3.9.2 Inferential statistics**

Inferential statistics are techniques that allow one to use sample data to make generalizations about the target population from which the samples were drawn (Burns and Bush, 2010: 463). Relevant bivariate and multivariate techniques, which are Spearman's rank, Wilcoxon signed-rank test, chi-square, factor analysis and cross tabulations, were used to draw inferences.

##### **3.9.2.1 The Spearman's rank order correlation**

The Spearman's rank order tests were used to determine if two variables are lineally related to each other and to ascertain the inter-correlations among the dimensions. The independency of study dimensions which are: expectations; perceptions; satisfaction; and smartphone stress were analysed to understand the data patterns.

##### **3.9.2.2 Wilcoxon signed- rank test**

The Wilcoxon signed-rank test is the non-parametric test that is used to compare two sets of scores that come from the same respondents. Hence, it can be used to investigate any change in scores from one time to another, or when individuals are subjected to more than one condition. (Laerd Statistics, 2013). Likewise, this study implemented the Wilcoxon signed-rank test to understand whether there were differences in customer experience before (expectations) and after consumption (perceptions). Furthermore, the test was applied to infer the experience of individuals before purchase and after purchasing the smartphone.

##### **3.9.2.3 Mann- Whitney U test**

The Mann-Whitney U test is used to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but normally distributed (Laerd Statistics, 2013). This study

adopted the test to ascertain the influence of the age, gender and length of smartphone ownership and the dimensions.

#### **3.9.2.4 Kruskal- Wallis test**

The Kruskal-Wallis test was used to ascertain the influence of the biographic variables towards the study dimensions that is, expectations, perceptions, satisfaction and smartphone stress.

#### **3.9.2.5 The chi-square test**

Chi-square tests are concerned with establishing whether the discrepancies between observed frequencies and expected frequencies are, in fact, statistically significant or whether they may be attributed to chance sampling errors or variations in the data (Chisnall, 1992: 343). Chi-square tests were used to analysis the relationship between customer experience and other variable frequencies. The degree to which the observed frequencies are expressed in a single number is called the chi-square statistic. A p-value expresses the test statistics. A chi-square analysis identifies a relationship with a significance level of .05 or less. When the level is more than .05, it suggests that there is no relationship between the measured variables (Burns and Bush, 2010: 572). The goodness-of-fit test is used to determine the association of two variables.

#### **3.9.2.6 Factor analysis**

Researching customer experience means engaging on very wide panoramic phenomena. Therefore, there is vast sources of data with many variables, most of which are correlated and must be reduced to a manageable level. Factor analysis is an independent statistical technique in that an entire set of interdependent relationships is examined with an ultimate goal of data reduction (Malhorta 2010: 636).

Factor analysis, in this study, was used to identify underlying dimensions that explain the correlations among the set of variables. It was used in relation to multi-item measures, the Likert scales. Students' experiences with smartphone statements were examined to identify the vital variables in order to reduce and summarize the data. Factors believed to be important by respondents were used to identify a smaller set of salient variables from a larger set for use in the subsequent multivariate analysis.

### **3.10 RELIABILITY AND VALIDITY OF THE MEASURING INSTRUMENT**

The terms reliability and validity seem almost like synonyms. However, they have quite different meanings in relation to the evaluation of the questionnaire (Bryman and Bell, 2007: 157).

### **3.10.1 Reliability**

Zikmund and Babin (2007: 321) uphold that reliability is concerned with consistency, accuracy and predictability of the research findings. Likert scales and other measurement procedures can be used with confidence and with the knowledge that is transient and situational factors are not interfering with the measurement process. A key question regarding the research questionnaire was, if measured, the student experience phenomenon over and over again with the same questionnaire, the same or highly similar results are attained. Thus, reliability is the degree to which measures are free from random error and, therefore, provide consistent data (McDaniel and Gates, 2007: 247).

Reliability was improved by testing the questionnaire for consistency. This was achieved by conducting a pre-test of the survey; inconsistent errors were identified and corrected. Furthermore, reliability was tested using Cronbach alpha techniques, which involved computing mean reliability coefficient estimates for all possible ways of splitting a set of items in half. A lack of correlation of an item with other items in the scale is evidence that the item does not belong in the scale and should be omitted. According to Yamaguchi (2008: 165), the KMO Measure of Sampling Adequacy (MSA) must be 0.60 and higher and the Bartlett's Test of Sphericity must be significant.

### **3.10.2 Validity**

Toriola (2006: 32) elucidates validity as the extent to which a test or instrument measuring a particular measure is free from systematic random errors. Therefore, validity is concerned with the integrity of the conclusions that are guaranteed from a piece of research (Bryman and Bell, 2007: 42). The principal researcher recognized that a necessary precondition for validity is that the measuring instrument be reliable. The questionnaire was pre-tested and extensively analyzed with the assistance of the research supervisor and co-supervisor. To bench-mark what the questionnaire purports to measure, bivariate and multivariate analyses were done because validity concerns are placed on the meaning of the test results. According to Sekaran and Bougie (2010:325), reliabilities less than 0.60 are considered to be poor, those in the 0.70 range acceptable and those over 0.80 good.

### **3.11 Conclusion**

This chapter described the empirical study that was conducted by presenting an overview of the research methodology employed in this study. The research problem and research objectives were used to develop the study design. Furthermore, an outline of the sampling technique was presented as well as the data collection method employed in the study. An overview of the questionnaire design, the data collection process,

techniques employed in ensuring the reliability and validity of the questionnaire, an outline of the pilot study and the statistical analysis employed in this study were presented.

The findings and discussion of the main study will be presented in the next chapter.

## **CHAPTER FOUR**

### **PRESENTATION AND DISCUSSION OF RESULTS**

#### **4.1 INTRODUCTION**

In this chapter, a commentary of research findings is presented and discussed. The first section of the chapter describes findings under five themes; purchase experience, expectations and perceptions, satisfaction, smartphone stress and changes. The statistical software (SPSS) version 21 was used to perform descriptive and inferential statistical tests. Results were presented in basic information, graphs, tables and other figures. Descriptive and inferential statistics were used to narrate the findings. The second part evaluates findings and interprets them in the discussion section of this chapter. Likewise, conclusions are drawn based upon the quantitative data presented and discussed in an attempt to answer the research objectives stated in the first chapter.

#### **4.2. DESCRIPTIVE STATISTICS**

Descriptive statistics using frequencies and percentages were used to ascertain the biographical information, smartphone ownership, expectations and perceptions, satisfaction levels, smartphone stress and changes to improve overall experience.

##### **4.2.1 Biographical information**

The statistical study was used to develop an understanding of the sample composition, that is, age and gender. General information such as gender and age are important variables and give the opportunity to identify and understand patterns formed in the data.

###### **4.2.1.1 Age**

The study is based on the university students' experience with smartphone usage. It was highly motivated by the fact that smartphones have 100% penetration rate among the youth in South Africa. Therefore, age will act as a perfect indicator of confirming the ideal target population. Table 4.1 presents the sample from DUT age categories;

**Table 4.1: Age groups**

Age in years	Number	Percentage
18 – 25	347	89.9
26 – 35	33	8.5
36 – 45	6	1.6
Total	386	100

The results in Table 4.1 show that the majority of the participants (89.9%) fall into the age group 18 – 25 years, followed by the 26 – 35 group (8.5%) and the 36 – 45 group (1.6%). The sample consisted mainly of undergraduate students. Therefore, there was a higher percentage ratio in the category 18-25. The findings indicate that generation Y (echo boomers) is the main target market for technological products such as smartphones. Furthermore, the generation Y is technologically alert with constant access to computers and mobile phones in everyday life, more than the older group of above 36.

**4.2.1.2 Gender**

On average, South Africa has a large female ratio as compared to males. Therefore, gender is a prerequisite variable to study smartphone trends.

**Figure 4.1: Distribution of the gender groups**

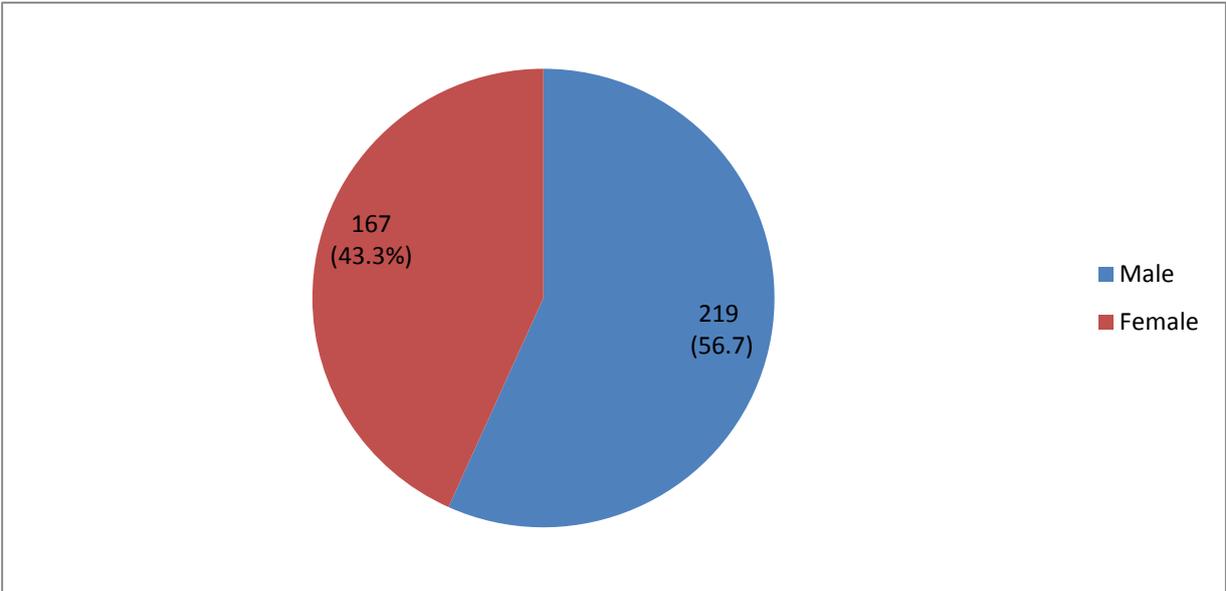


Figure 4.1 shows that the sample consisted of 56.7% males (blue part) and 43.3% females (brown part). There were more male than female respondents. The study did not seek to investigate specific gender groups.

Therefore, there was no gender bias. Consequently, there was proper representation so that the results can be generalized to the whole population.

**4.2.1.3 Duration of smartphone usage**

Duration is an important indicator in research for it shows how long the respondent has experienced the product. For example, one might have difficulties navigating the interface during the first few days. However, it can be argued that students are absorbed in technology and, therefore, are less likely to encounter such difficulties.

**Table 4.2: Duration of smartphone usage**

Dimension	Number	Percentage
Under 6 months	76	19.7
6 months but, less than 1 year	111	28.8
1 year but, less than 3 years	123	31.8
3 years and over	57	14.8
Cannot recall	19	4.9
Total	386	100.0

Table 4.2 depicts that 31.9% of respondents have used smartphones for a year but less than three years, 28.8% for six months but less than a year, 19.7% under six months; 14.8% over three years and 4.9% cannot recall. The results depict a somewhat evenly spread duration. Therefore, overall experience can be understood at different touch points.

**4.2.1.4 Smartphone brand preference**

Smartphones are manufactured in different shapes, sizes and even colours with various brand names. However, the study adopted a few of some brand names that differentiate these technological advanced devices.

**Figure 4.2: Smartphone brand preference**

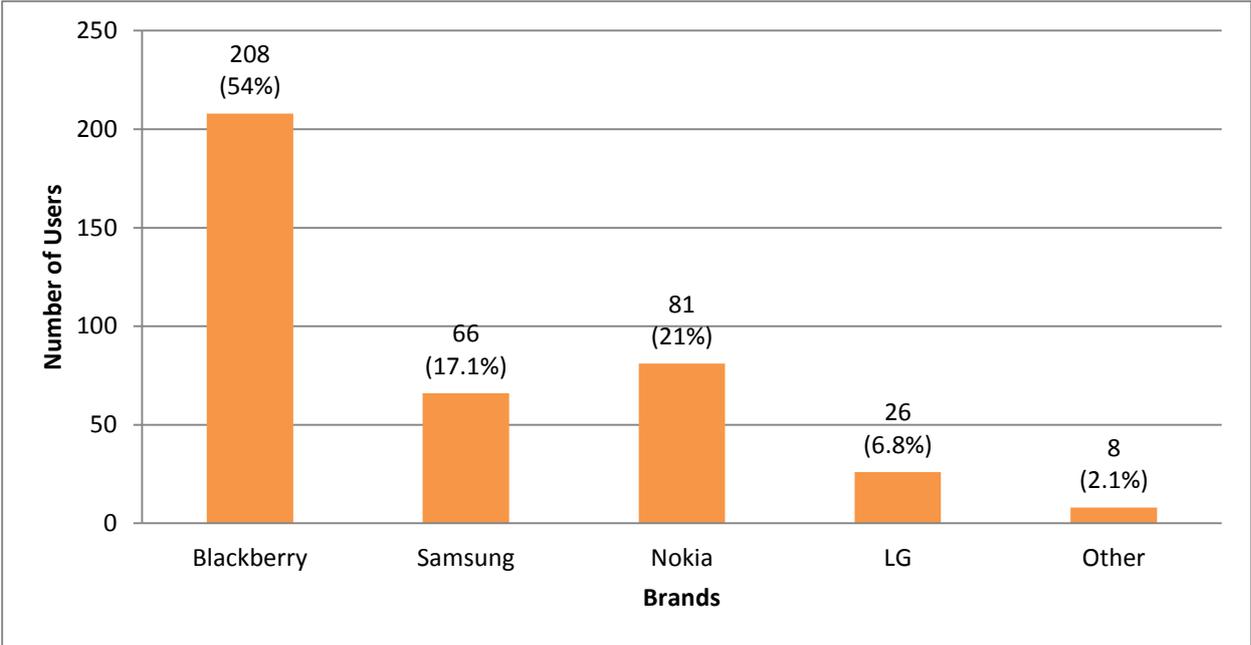


Figure 4.2 depicts that most respondents (54%) have/use the Blackberry smartphones. Nokia follows the hierarchy with 21%. Samsung smartphones are represented by 17.1%. LG smartphones are represented by 6.8% and other brands are represented by a minority 2.1%. Therefore, Blackberry is the most preferred brand amongst the other brands.

**4.2.1.5 Prior owned brand**

Some people are brand loyal and some follow current trends. This section presents the findings on previously-owned brands before the adoption of the currently used handset. The aim is expand the insight on brand loyalty and trends.

**Figure 4.3: Previously used mobile phone brands**

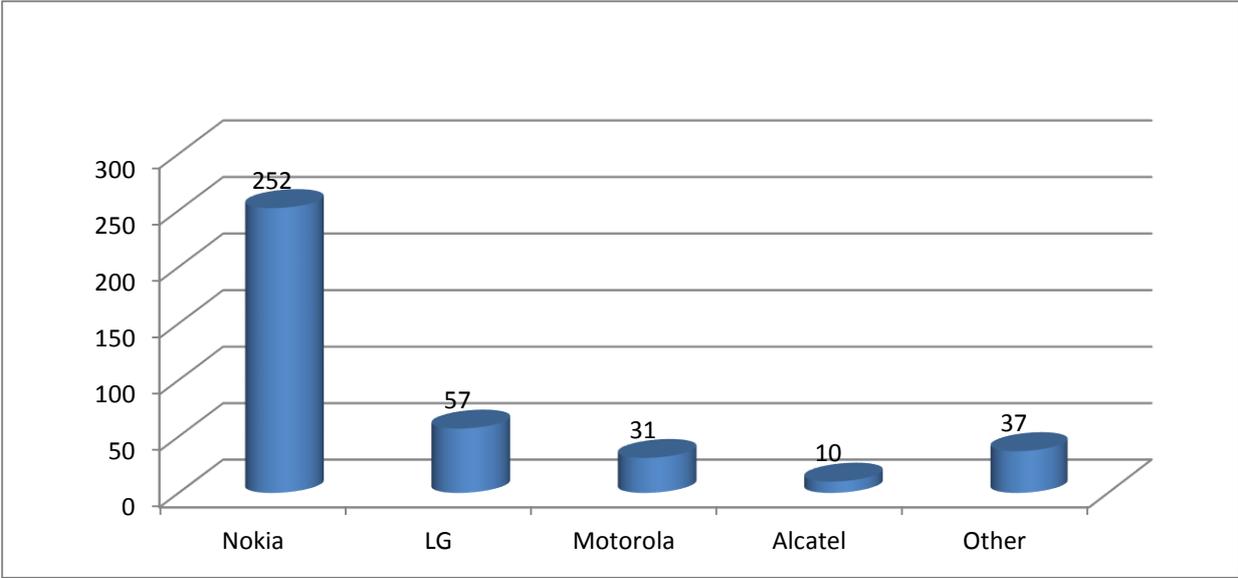


Figure 4.3 highlights the brands that respondents used prior to owning the smartphones currently being used. The results presented shows that Nokia holds a majority of 65.5%, LG, 14.8%, other brands, 9.6%, Motorola, 8.1% and Alcatel, 10%. Nokia was the most adopted brand prior to currently-owned smartphones. Furthermore, different people are motivated with different stimuli.

**4.2.1.6 Motivation towards purchase**

The purchasing preference is motivated with different reasons hence it affects overall experience with the product purchased. Figure 4.4 depicts the respondents’ were allowed to choose more than one answer.

**Figure 4.4: Smartphone preference**

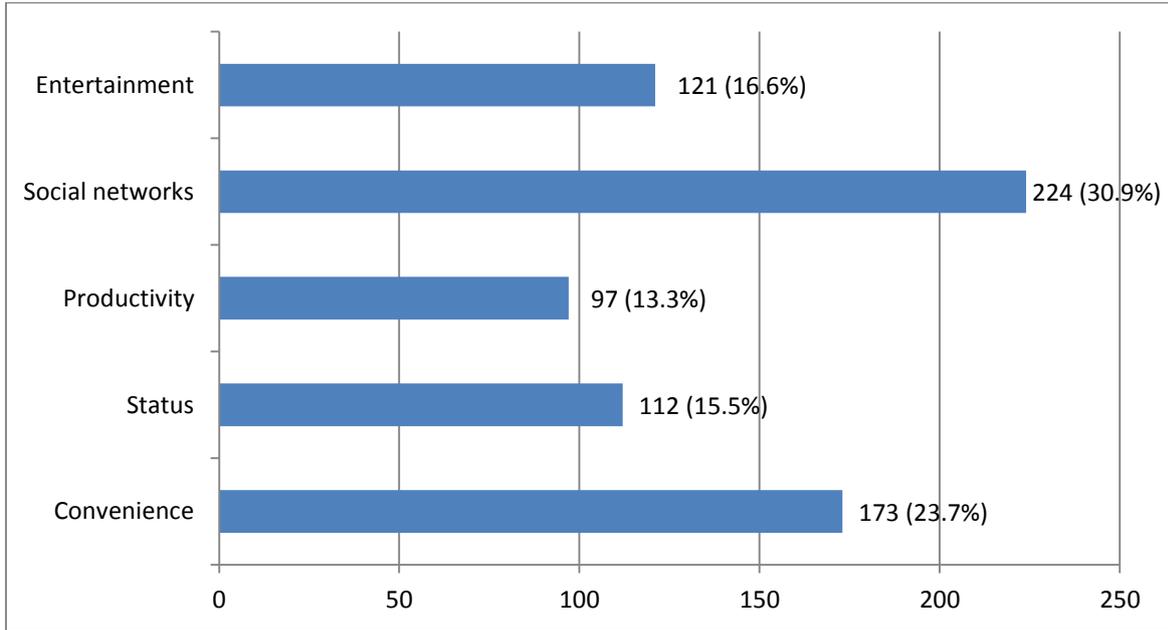


Figure 4.4 indicates that respondents were prompted to buy smartphones by the desire of social networks (30.9%), followed by the need for convenience (23.7%), and then entertainment (16.6%), social status (15.5%) and productivity (13.3%), respectively. It, therefore, implies that when students buy smartphones, social networks and convenience are the key motivating variables for smartphone adoption. Smartphones are preferred for different reasons with different people of different age groups.

**4.2.1.7 Experiences towards preferred usage**

When one buys a product, one expects it to be right and must prove why it was preferred foregoing other opportunities. Table 4.3 presents the experiences benchmarked to preferences.

**Table 4.3: Experiences and preference**

Preference	Number	Percentage
Around the clock convenience	149	38.6%
Improved status	148	38.3%
Satisfied	182	47.2%
Having bad experiences	40	10.4%
Nothing has changed	46	11.9%

Table 4.3 indicates that 47.2% of respondents are satisfied, 38.6% have total around the clock convenience, 38.3% indicate improved status, 11.9% herald that nothing has changed and the minority (10.4%) of respondents highlight having bad experiences.

**4.2.2 Expectations and perceptions**

Pre-consumption experiences are compared with post-purchase experiences to present a platform to investigate and understand the customer experiences at different touch-points. Table 4.5 highlights the findings from the sample. The results relating to expectations (before use) and perceptions (after and during use) are shown in the Table 4.4 and Table 4.5, respectively.

**4.2.2.1 Expectations**

Expectations can be defined as beliefs of what will happen in some future situation (Babin and Harris, 2013: 363).

**Table 4.4: Expectation experiences**

Expectations	Strongly disagree		Disagree		Uncertain		Agree		Strongly agree		Total	
	N	%	N	%	n	%	n	%	N	%	n	%
Easy to use	32	8.3%	44	11.4%	63	16.3%	164	42.5%	83	21.5%	386	100.0%
Storage capacity	12	3.1%	40	10.4%	80	20.7%	183	47.4%	71	18.4%	386	100.0%
Convenience	5	1.3%	19	5%	92	23.8%	200	51.8%	70	18.1%	386	100.0%
Display	15	3.9%	26	6.7%	84	21.8%	178	46.1%	83	21.5%	386	100.0%
Battery life	35	9%	66	17.1%	106	27.5%	107	27.7%	72	18.7%	386	100.0%
Life style	12	3.1%	21	5.4%	86	22.3%	183	47.4%	84	21.8%	386	100.0%
Productivity	10	2.6%	19	4.9%	99	25.6%	191	49.5%	67	17.4%	386	100.0%
Value	19	4.9%	30	7.8%	69	17.9%	154	39.9%	114	29.5%	386	100.0%
Fashion	19	4.9%	25	6.5%	94	24.4%	168	43.5%	80	20.7%	386	100.0%
Social networks	17	4.4%	24	6.2%	40	10.4%	149	38.6%	156	40.4%	386	100.0%
Entertainment	12	3.1%	21	5.4%	47	12.2%	144	37.3%	162	42.0%	386	100.0%

Table 4.4 highlights the pre-consumption expectation on a rating scale of 1 (strongly disagree) to 5 (strongly agree). Strongly disagree and disagree were combined and strongly agree combined with agree. The responses to expectation statements include:

- **Easy to use:** the results show that 64% of the respondents agreed and strongly agreed that the smartphone is easy to use while 19.7% disagreed and strongly disagreed and 16.3% were neutral.
- **Sufficient storage capacity:** the findings indicate that 65.8% of the respondents agreed and strongly agreed that the smartphone has sufficient storage capacity while 13.5% disagreed and strongly disagreed and 20.7% were neutral.
- **Around the clock convenience:** Table 4.4 reveals that 69.9% of respondents agreed and strongly agreed that the uncertainty of convenience expectation warrants attention, whilst 6.2% disagreed and strongly disagreed and 23.8% were uncertain.
- **Clear display of output:** Table 4.4 points out that 67.6% of respondents agreed and strongly agreed that the smartphone is expected to have a clear display of output. On the other hand, 10.6% disagreed and strongly disagreed while 21.8% were neutral.
- **Sustained battery life:** The majority of respondents (46.4%) indicated that the expectation of the smartphone battery is to have a prolonged life while 26.2% disagreed and strongly disagreed and 27.5% were uncertain.

- **Compatible with my life style:** The majority (69.2%) of respondents showed that the smartphone is expected to be compatible with life style with 8.5% disagreed and strongly disagreed and 22.3% were uncertain.
- **Productivity enhancing:** Table 4.4 depicts that 66.9% agreed and strongly agreed that the smartphone is expected to enhance productivity, whilst 7.5% disagreed and strongly disagreed and 25.6 were neutral.
- **Worth the price:** The majority (69.4%) of respondents expected value for money whilst 12.7% denied the expectation of value, and 17.9% were uncertain.
- **Reveals a fashion statement:** The results show that 64.2 % of respondents agreed and strongly agreed that the smartphone should reveal a fashion statement, whilst 11.4% disagreed and strongly disagreed with 24.4% were uncertain.
- **Stay socially connected:** The results unveil that 79% of respondents agreed and strongly agreed to the expectation of staying social connected with use of a smartphone, whilst 10.6% disagreed and strongly disagreed and 10.4% were neutral.
- **Stay entertained:** Table 4.5 also illustrates that 79.3% of respondents agreed and strongly agreed to the expectation of staying entertained with the smartphone, whilst 8.5% disagreed and strongly disagreed and 12.2% were uncertain.

#### 4.2.2.2 Perception experiences

Post-consumption experiences reveal the moments of truth during and after consumption and are an important ingredient in understanding customer experience. Table 4.5 shows the response to the research instrument.

**Table 4.5: Perceptions**

Perceptions	Strongly disagree		Disagree		Uncertain		Agree		Strongly agree		Total	
	N	%	N	%	N	%	N	%	n	%	n	%
Easy to use	33	8.5%	19	5%	16	4.1%	187	48.4%	131	34%	386	100.0%
Storage capacity	14	3.6%	40	10.4%	31	8.0%	201	52.1%	100	25.9%	386	100.0%
Convenience	8	2%	19	4.9%	40	10.4%	235	60.9%	84	21.8%	386	100.0%
Display	13	3.4%	18	4.8%	44	11.4%	200	51.8%	111	28.8%	386	100.0%
Battery life	120	31.1%	98	25.4%	47	12.2%	78	20.2%	43	11.1%	386	100.0%
Life style	14	3.6%	27	7.1%	43	11.1%	200	51.8%	102	26.4%	386	100.0%
Productivity	13	3.4%	21	5.4%	70	18.1%	210	54.4%	72	18.7%	386	100.0%
Value	21	5.4%	48	12.4%	37	9.6%	153	39.6%	127	33%	386	100.0%
Fashion	22	5.7%	37	9.6%	46	11.9%	156	40.4%	125	32.4%	386	100.0%
Social networks	12	3.1%	10	2.6%	12	3.1%	139	36.0%	213	55.2%	386	100.0%
Entertainment	16	4.1%	13	3.4%	17	4.4%	129	33.4%	211	54.7%	386	100.0%

Table 4.5 shows the responses to perceptions statements rated using the 5 point Likert scale. Strongly disagree and disagree were combined and strongly agree combined with agree. The experiences of how students perceived the smartphone after purchase and during use are as follows:

- **Easy to use:** The results show that 82.4% of the respondents agreed and strongly agreed that the smartphone is easy to use, whilst 13.5% disagreed and strongly disagreed, with 4.1% were neutral.
- **Storage capacity:** The majority (78%) of the respondents found that the smartphone has sufficient storage capacity after purchase, whilst 14% disagreed and strongly disagreed with 8% were neutral.
- **Around the clock convenience:** Table 4.5 indicates that 82.7% agreed and strongly agreed to the around the clock convenience after purchase, whilst 6.9% disagreed and strongly disagreed with 10.4% were neutral.
- **Clear display of output:** A large number (80.6%) acknowledged that the smartphone has a clear display of output. However, 8.2% disagreed and strongly disagreed and 11.2% were neutral.
- **Sustained battery life:** Table 4.5 depicts that 31.3% of respondents considered the smartphones to have a sustained battery life after purchase, whilst 56.5% disagreed and strongly disagreed to the fact and 12.2% were uncertain. It is therefore, apparent that the battery life warrants attention.
- **Compatible with my life style:** The majority of respondents (78.2%, that is, 26.4% +51.8%) found that the smartphone is compatible with the respective life style after purchase. However, 10.7% disagree and strongly disagree with the fact and 11.1% are uncertain.

- **Productivity enhancing:** The results illustrate that 73.1% found that the smartphone is productive, 8.8% disagreed and strongly disagreed, whilst 18.1% were neutral.
- **Worth the price:** Table 4.5 depicts that 72.6% of respondents found value for money after purchase and usage experience of the smartphone. Furthermore, 17.8% did not find value for money after the purchase and using the smartphone, whilst 9.6% were uncertain.
- **Reveals a fashion statement:** The results indicate that 72.8% agreed and strongly agreed that the smartphone reveals a fashion statement after purchase, whilst 15.3% disagreed and strongly disagreed and 11.9% were neutral.
- **Stay socially connected:** The majority of respondents (91.2%, that is, 55.2% + 36%) confirmed that after purchase and usage experience the social connection was enhanced, whilst 5.7% disagreed and strongly disagreed, and 3.1% were neutral.
- **Stay entertained:** Table 4.5 also reveals that 88.1% agreed and strongly agreed that the smartphone enables them to stay entertained. However, 7.5% disagreed and strongly disagreed, while 4.4% were uncertain.

#### 4.2.3 Satisfaction derived from smartphone usage

Satisfaction levels were also measured against smartphone attributes and the results are presented in Table 4.6.

**Table 4.6: Satisfaction levels derived from smartphone features**

Attributes	Strongly disagree		Disagree		Uncertain		Agree		Strongly agree		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Main menu	21	5.4%	25	6.5%	22	5.7%	256	66.3%	62	16.1%	386	100.0%
Screen size	10	2.6%	24	6.2%	34	8.8%	218	56.5%	100	25.9%	386	100.0%
Applications	14	3.6%	38	9.8%	72	18.7%	197	51.0%	65	16.9%	386	100.0%
Storage capacity	13	3.4%	28	7.3%	27	7.0%	228	59.1%	90	23.3%	386	100.0%
Camera	9	2.3%	29	7.5%	33	8.5%	200	51.8%	115	29.8%	386	100.0%
Brand name	13	3.4%	26	6.7%	37	9.6%	179	46.4%	131	33.9%	386	100.0%
Communication	7	1.8%	20	5.2%	10	2.6%	213	55.2%	136	35.2%	386	100.0%
Emotionally attached	22	5.7%	63	16.3%	39	10.1%	133	34.5%	129	33.4%	386	100.0%
Appearance	9	2.3%	20	5.2%	42	10.9%	182	47.2%	133	34.5%	386	100.0%
Compatibility	6	1.6%	15	3.9%	29	7.5%	204	52.8%	132	34.2%	386	100.0%
Processor speed	17	4.4%	42	10.9%	33	8.5%	172	44.6%	122	31.6%	386	100.0%

Strongly disagree and disagree were combined and strongly agree combined with agree. Table 4.6 reveals smartphone attributes used as point of reference to measure satisfaction levels and the results are as follows:

- **Main menu:** Majority of respondents (82.4%) agreed and strongly agreed that was easy to navigate the phone using the main menu, whilst 11.9% disagreed and strongly disagreed and a mere 5.7% were neutral.
- **Screen size:** The results depict that 82.4% of respondents experienced pleasant viewing enhanced by the smartphone screen size. On the other hand, 8.8% disagreed and strongly disagreed and 8.8% were uncertain.
- **Applications:** Table 4.6 highlights that 67.9% of the respondents perceived smartphone applications to enhance learning/studying with 13.4% indicating that it does not, whilst 18.7% were uncertain.
- **Storage capacity:** Majority of the respondents (82.4%) are satisfied with the storage capacity, albeit minority of 10.7% of the respondents was not happy, whilst 7% were neutral.
- **Camera:** was rated satisfactory by 81.6% (51.8% + 29.8%) whilst 9.8% indicated that the satisfaction level of camera is not satisfactory and 8.5% were neutral.
- **Brand name:** The majority of respondents 80.3% (33.9% + 46.4%) considered the brand name desirable, whilst 10.1% did not and 9.6% were neutral.

- **Communication:** The results showed that 90.4% of the respondents agreed and strongly agreed that the smartphone-telecommunication meets communication needs. However, 7% are not satisfied while 2.6% were uncertain.
- **Emotionally attached:** Table 4.6 also reveals that 67.9% of the respondents are emotionally attached to the smartphone. However, 22% disagreed and strongly disagreed that there are emotionally attached to mobile phones, whilst 10.1% were uncertain.
- **Appearance:** The results reveal that 81.7% of respondents are satisfied with the smartphone aesthetics whilst 7.5% are not satisfied and 10.9% were uncertain.
- **Compatibility:** The majority of respondents (87%) considered the smartphone compatible whilst 5.5% disagreed or strongly disagreed with the smartphone size and weight and 7.5 were neutral.
- **Processor:** Table 4.6 also depicts that 76.2% of respondents are satisfied with the processor speed, whilst 15.3% were not and 8.5% were neutral.

#### 4.2.4 Smartphone stress

An old adage says that every coin has two sides. Thus, to say no matter how good something is, feelings of remorse are inevitable. The stress/cognitive dissonance feelings- ratings of the survey are shown in Table 4.7.

**Table 4.7: Factors that spur dissonance in the smartphone use experience**

Attribute	Strongly disagree		Disagree		Uncertain		Agree		Strongly agree		Total	
	N	%	N	%	N	%	N	%	n	%	N	%
Navigation is difficult	67	17.4%	195	50.5%	46	11.9%	62	16.1%	16	4.1%	386	100.0%
Keys are too close	69	17.9%	138	35.8%	35	9.0%	114	29.5%	30	7.8%	386	100.0%
Screen is small	87	22.4%	169	44.0%	31	8.0%	66	17.1%	33	8.5%	386	100.0%
Battery dies quickly	36	9.3%	58	15.0%	38	9.9%	119	30.8%	135	35.0%	386	100.0%
Web pages are slow to download	52	13.5%	133	34.5%	63	16.3%	97	25.1%	41	10.6%	386	100.0%
Difficult to use internet	57	14.8%	149	38.6%	60	15.5%	89	23.1%	31	8.0%	386	100.0%
Websites not optimised for mobile phones	53	13.7%	141	36.5%	78	20.2%	89	23.1%	25	6.5%	386	100.0%
Other features are useless	56	14.5%	101	26.2%	55	14.2%	129	33.4%	45	11.7%	386	100.0%
Storage capacity is small	65	16.8%	136	35.2%	45	11.7%	106	27.5%	34	8.8%	386	100.0%
The phone is too thin it falls regularly	73	18.9%	169	43.8%	49	12.7%	65	16.8%	30	7.8%	386	100.0%
Value	96	24.8%	125	32.4%	50	13.0%	75	19.4%	40	10.4%	386	100.0%

Table 4.7 highlight smartphone attributes that the respondents identified as causes of remorse feelings. The challenges are specified and rated using the 5 point Likert scale however, strongly agree and agree are combined together and also strongly disagree and disagree are combined.

- **Navigation is difficult:** The results revealed that 20.2% of the respondents had difficulties with navigating smartphone functions, whilst the majority (67.9%) did not have problems and 11.9% of the respondents were neutral.
- **Keys are too close:** Table 4.7 shows that a minority (37.3%) indicated that the characters on the key pads are too close, while the majority (53.7) disagreed with the statement and 9.0% were uncertain.
- **Screen is small:** Table 4.7 indicates that 25.6% of respondents believed that the screen is small and 66.4% opposed the statement, while 8% were uncertain.
- **Battery dies quickly:** Nearly two-thirds (65.8%) of respondents agreed to the battery dying quickly. However, 24.3% disagreed to the statement and a further 9.9% were uncertain.
- **Web pages are too slow to download:** Table 4.7 illustrates that 35.7% agreed and strongly agreed that the download function is slow, whilst 48% disagreed and strongly disagreed to the statement and 16.3% were neutral.
- **Difficult to navigate the web pages:** Table 4.7 also shows that almost a third of respondents (31.1%) agreed to difficulties in web page navigation. Furthermore, a significant majority of population (53.4%) chose to disagree, whilst 15.5% were neutral.
- **Websites not optimised for smartphones:** Table 4.7 also shows that a minority (29.6%) indicated that websites are not optimized for smartphones and just above half (50.2%) of respondents disagreed, whilst 20.2% were neutral.
- **Other features are useless:** Table 4.7 depicts that 45.1% of respondents agreed to have bought frills, whilst 40.7% opposed the statement and 14.2% were uncertain.
- **Storage capacity is too small:** Table 4.7 also points out that 36.3% of the respondents agreed and strongly agreed that the storage space is too small. However, a significant percentage of the respondents (52%) disapproved and 11.7% were neutral.
- **The phone is too thin it falls regularly:** Table 4.7 further illustrates that 24.6% of respondents reported that smartphones fall regularly, whilst a significant proportion of population (62.7%) reported otherwise and 12.7% were uncertain.
- **Value for money:** Almost a third (29.8%) of respondents expressed remorse of being cheated for the money paid against overall use experience. While a significant percentage (57.2%) of respondents agree that value paid for is being enjoyed and 13% were neutral.

#### 4.2.5 Changes

Satisfaction is a series of experiences that are good minus bad ones. The variations and how possibly it can be reconciled according to the respondents are listed below;

**Table 4.8: Suggested changes to improve overall experience**

Dimension	Strongly disagree		Disagree		Uncertain		Agree		Strongly agree		Total	
	n	%	n	%	n	%	n	%	N	%	N	%
Increased size of key pads	70	18.1%	124	32.1%	37	9.7%	107	27.7%	48	12.4%	386	100.0%
Prolonged battery life	20	5.2%	40	10.4%	27	7.0%	135	35.0%	164	42.4%	386	100.0%
Increased screen size	45	11.6%	133	34.5%	44	11.4%	96	24.9%	68	17.6%	386	100.0%
Increased thickness of the phone	71	18.4%	143	37.0%	54	14.0%	64	16.6%	54	14.0%	386	100.0%

Table 4.8 shows suggested changes that respondents feel can be made to improve overall experience of owning and using a smartphone. For analysis the scale combines strongly agree and agree and also disagree and strongly disagree. The results are highlighted under the following dimensions:

- Increased size of key pads:** Table 4.8 depicts that a significant portion of the respondents (40.1%) suggested an increase in characters on the key pads size, whilst half of the respondents (50.2%) disagreed to the fact and 9.7% were neutral. Clearly, this matter warrants attention.
- Prolonged battery life:** The majority of respondents (77.4%) agreed that the battery should be prolonged. Whilst 15.6% of the respondents disagreed to the fact, while 7% remained uncertain. Technology is, therefore, being stretched to dig deeper in order to cater for the big screen and multi-functional voltage consuming smartphones.
- Increased screen size:** Results reveal that 42.5% of respondents agreed and strongly agreed to increase the screen size and the majority (46.1%) disagreed to the proposal, whilst 11.4% were uncertain.
- Increased thickness of the phone:** Table 4.8 also points out that 30.6% of respondents agreed that the thickness of the phone should be increased. However, more than half (55.4%) of the respondents disagreed to the proposal and 14% were neutral.

#### 4.2.6.1 Further suggestions of change to improve overall experience

Change is inevitable therefore, every product will remain subject to suggestions of change.

**Table 4.9: Other proposed changes**

Dimension	Responses	Percent of Cases
	N	
Weight	4	1.0%
Sound Output	6	1.6%
Waterproof	3	0.8%
Increase storage capacity	7	1.8%
Processing speed	5	1.3%

Table 4.9 illustrates that 0.8% of respondents suggested a waterproof smartphone whilst 1% of the respondents suggested changes in weight of the smartphone. Further 1.3% of the respondents were of the idea that the processing speed should improve and 1.6% suggested changes in the sound output. Lastly, 1.8% vowed for changes in increasing sound output.

#### **4.2.6 Central tendency and dispersion**

According to Altinay and Paraskevas (2008: 202), mean measures the central tendencies and standard deviation and variance represent the extent of dispersion in data.

**Table 4.10: Central tendency and dispersion**

	N	Minimum	Maximum	Mean	Std. Deviation
Expectations	386	1.00	5.00	3.7525	.61681
Perceptions	386	1.27	5.00	3.8488	.61232
Satisfaction	386	1.00	5.00	3.9421	.62781
Smartphone Stress	386	1.00	5.00	2.7633	.78603

Table 4.10 depicts the dimensions of customer experiences with smartphones. The dimensions were measured using the Likert scales test ranging from a score of **1** (strongly disagree) to **5** (strongly agree) the mean values in descending order are:

- Satisfaction dimensions with the highest mean score of 3.9421 (SD = 0.62781);
- Perceptions dimensions (post-purchase) experiences with smartphones with a mean score of 3.8488 (SD = 0.61232);
- Expectation dimensions (pre-purchase) experiences with a mean score of 3.7525 (SD = 0.61681); and
- Smartphone stress with the lowest mean score of 2.7633 (SD = 0.78603).

Therefore, respondents were satisfied with smartphone experience despite minimal remorse feelings being depicted by the lowest mean score with the stress dimension.

**Table 4.11: Mean and standard deviation of changes to be implemented**

	N	Minimum	Maximum	Mean	Std. Deviation
Increased size of key pads	386	1	5	2.84	1.342
Prolonged battery life	386	1	5	3.99	1.174
Increased screen size	386	1	5	3.02	1.330
Increased thickness of the phone	386	1	5	2.71	1.323

Table 4:11 illustrates smartphone features that can be possibly improved to increase satisfaction levels with smartphone experience. The features were measured using the Likert scale test ranging from a score of **1** (strongly disagree) to **5** (strongly agree). The mean values in the descending order are as follows:

- Prolonged battery life is the feature with the highest mean value of 3.99 (SD = 1.174);
- Increased screen size follows as a smartphone feature with a mean score of 3.02(SD = 1.3300);
- Increased key pad characters is third in descending order with a mean score 2.84 (SD = 1.342); and
- Increased thickness of the phone with the lowest mean score of 2.71 (SD = 1.323).

These results imply that there is a slight gap between desired experiences and actual experiences.

**4.2.8 Inferential statistics**

Inferential statistics are used to test a supposition in a population or infer something from data (Picardi and Masick, 2014: 180). The inferential statistics test results undertaken for the study are depicted in Table 4: 13.

**Table 4.12: Test for normality**

Dimension	N	Kolmogorov-Smirnov Z	P
Expectations	386	1.693	.006
Perceptions	386	2.378	.000
Satisfaction	386	2.539	.000
Smartphone Stress	386	.964	.311
Increased size of key pads	386	4.664	.000
Prolonged battery life	386	5.447	.000
Increased screen size	386	4.722	.000
Increased thickness of the phone	386	5.068	.000

A normality test was conducted to ascertain whether the data follow a normal distribution or not. The test results show that the data does not follow a normal distribution. Accordingly, non-parametric statistical tests were used. The Spearman's Rank Order Correlation ( $\rho$ ) was used to determine the Inter-correlations among the study dimensions, the Wilcoxon Test to determine whether there is a significant difference between the expectation and perception experience, the Mann Whitney and the Kruskal Wallis Tests to ascertain the influence of the biographic variables and the dimensions.

#### 4.2.8.1 Inter-correlations among dimensions

The independency of dimensions to each other aids understanding the data patterns and also helps in making inferences. Table 4.13 shows the relationships of study dimensions.

**Table 4.13: Spearman's Inter-correlation**

Dimension		Spearman's rho		
		Correlation Coefficient	P	N
Expectations	Expectations	1.000	.	386
	Perceptions	<b>.163**</b>	<b>.001**</b>	386
	Satisfaction	.063	.220	386
	Smartphone Stress	-.054	.292	386
Perceptions	Expectations	<b>.163**</b>	<b>.001**</b>	386
	Perceptions	1.000	.	386
	Satisfaction	<b>.406**</b>	<b>.000**</b>	386
	Smartphone Stress	<b>-.179**</b>	<b>.000**</b>	386
Satisfaction	Expectations	.063	.220	386
	Perceptions	<b>.406**</b>	<b>.000**</b>	386
	Satisfaction	1.000	.	386
	Smartphone Stress	<b>-.137**</b>	<b>.007**</b>	386
Smartphone Stress	Expectations	-.054	.292	386
	Perceptions	<b>-.179**</b>	<b>.000**</b>	386
	Satisfaction	<b>-.137**</b>	<b>.007**</b>	386
	Smartphone Stress	1.000	.	386

According to Table 4:13, there is a positive and significant correlation between the expectation and perception experiences ( $\rho = 0.163$ ;  $p = 0.001$ ). However, there is no significant correlation between expectation experience and satisfaction ( $\rho = 0.063$ ;  $p = 0.220$ ) and smartphone stress ( $\rho = -0.054$ ;  $p = 0.292$ ).

Furthermore, there is a positive and significant correlation between perception experience and satisfaction ( $\rho = 0.406$ ;  $p = 0.000$ ). Hence, there is a negative and significant correlation between perception experience and smartphone stress ( $\rho = -0.179$ ;  $p = 0.000$ ).

Table 4.13 also reveals that there is a negative and significant correlation between satisfaction and smartphone stress ( $\rho = -0.137$ ;  $p = 0.007$ ).

#### 4.2.9 Hypotheses

Two hypotheses were formulated to test whether there was a statistically significant difference in the expectation experience and perception experience of the subjects as well as the influence of the biographical variables on the study dimensions.

#### **4.2.9.1 Hypothesis 1**

*There is a statistically significant difference in the expectation experience and perception experience of the respondents.*

**Table 4.14: Wilcoxon Signed Rank test - differences between expectation and perception experience; smartphone attributes measured**

Attribute of Smartphone	N	Expectations (pre-purchase)		Perceptions (post-purchase)		Z	P
		Mean	Std. Deviation	Mean	Std. Deviation		
Easy to use	386	3.58 (10)	1.185	3.94 (5)	1.161	-4.754 <sup>b</sup>	.000*
Storage capacity	386	3.68 (9)	.992	3.86 (7)	1.032	-2.838 <sup>b</sup>	.005*
Convenience	386	3.81 (3)	.835	3.95 (4)	.839	-3.005 <sup>b</sup>	.003*
Display	386	3.75 (6)	.995	3.98 (3)	.945	-3.804 <sup>b</sup>	.000*
Battery life	386	3.30 (11)	1.213	2.55 (11)	1.395	-8.286 <sup>c</sup>	.000*
Compatible with life style	386	3.80 (5)	.952	3.90 (6)	.988	-1.762 <sup>b</sup>	.078
Productivity	386	3.74 (7)	.892	3.80 (10)	.921	-1.051 <sup>b</sup>	.293
Value	386	3.81 (3)	1.094	3.82 (9)	1.176	-.234 <sup>b</sup>	.815
Fashion statement	386	3.69 (8)	1.028	3.84 (8)	1.148	-1.856 <sup>b</sup>	.063
Social networking	386	4.04 (2)	1.074	4.38 (1)	.910	-5.091 <sup>b</sup>	.000*
Stay entertained	386	4.10 (1)	1.016	4.31 (2)	1.002	-3.490 <sup>b</sup>	.000*
<b>Overall Score</b>	<b>386</b>	<b>3.7525</b>	<b>.61681</b>	<b>3.8488</b>	<b>.61232</b>	<b>-2.855<sup>b</sup></b>	<b>.005*</b>

The test results from the Wilcoxon Signed Rank test are presented below:

- **Easy to use:** Table 4:14 points out that there is a statistically significant difference in whether smartphones were easy to use between expectations and perceptions experiences of the subjects ( $z = -4.754$ ;  $p < 0.05$ ).
- **Storage capacity:** Results show a noticeable difference in storage capacity before and after and during use of the smartphone ( $z = -2.838$ ;  $p < 0.05$ ).
- **Around the clock convenience:** Furthermore, a statically significant difference in whether smartphones were viewed to provide around the clock convenience as expectations are compared against perceptions experiences of respondents ( $z = -3.005$ ;  $p < 0.03$ ).
- **Clear display of output:** The results ( $z = -3.804$ ;  $p < 0.05$ ) depict a significant difference whether smartphones provided a clear display of output amongst prior usage and during and/ or after usage experiences.
- **Compatible with my Lifestyle:** There is no statistically significant difference in whether smartphones are compatible with lifestyle between the expectations and perceptions experience of the subjects ( $Z = -1.762$ ;  $P > 0.05$ ).
- **Productivity enhancing:** Table 4:14 illustrates no significant difference in smartphones being productive enhancing as prior speculations are compared to moments of truth ( $z = -1.051$ ;  $p > 0.05$ ).
- **Value:** No statistically significant difference is deduced in value expected and actually perceived of the students ( $z = -.234$ ;  $p > 0.05$ ).
- **Reveals fashion statement:** Table 4:14 also shows that there is no statistically significant difference in whether smartphones reveal fashion statements between the expectations and perception experiences of the subjects ( $z = -1.856$ ;  $p > 0.05$ ).
- **Stay socially connected:** The results reveal that there is statistically significant difference in whether smartphones enables respondents to stay socially connected between the speculations and actual experiences ( $z = -5.901$ ;  $p < 0.05$ ).
- **Stay entertained:** The comparisons ( $z = -3.490$ ;  $p < 0.05$ ) show that there is a statistically noticeable difference when expectations are matched against perceptions.
- **Overall score:** The table also illustrates that there is a statistical difference statistically when students' expectations are matched against the actual perceptions ( $z = -2.855$ ;  $p < 0.04$ ).

#### 4.2.9.2 Hypothesis 2

*There is a statistically significant difference in the influence of the biographic variables (age, gender and length of smartphone usage) on the study dimensions.*

#### Relationship between age and study dimensions (expectations, perceptions, satisfaction and smartphone stress)

**Table 4.15: Kruskal- Wallis test – Study dimensions by age**

	Chi-Square	Df	P
Expectations	3.941	2	.139
Perceptions	1.911	2	.385
Satisfaction	3.703	2	.157
Smartphone Stress	.067	2	.967

Table 4.15 reveals that there is no statistically significant difference in the relationships of the study dimensions matched against the age as the controllable variable. The expectations ( $p = 0.139$ ), perceptions ( $p = 0.385$ ), satisfaction ( $p = .157$ ) and stress ( $p = 0.9670$ ) results depict that no real conclusion can be made regarding age as few older than 25 answered the questionnaire and age categories were very wide.

#### Relationship between gender and study dimensions (expectations, perceptions, satisfaction and smartphone stress)

**Table 4.16: Mann Whitney U tests: Study dimensions by -gender**

	Mann-Whitney U	Z	P
Expectations	17335.000	-.877	.380
Perceptions	16872.000	-1.305	.192
Satisfaction	16104.000	-2.013	.044*
Smartphone Stress	16146.500	-1.972	.049*

The results show a statistically significant difference in the mean ranks of the satisfaction dimension (Mann Whitney U = 16104.000;  $Z = -2.013$ ;  $p < 0.05$ ) and the smartphone stress dimension (Mann Whitney U = 16146.500;  $Z = -1.972$ ;  $P < 0.05$ ) between males and females. The satisfaction level dimension together with cognitive level dimension responses between males and females did vary.

Furthermore, the results also illustrate that there was no statistically significant difference in the mean ranks of the expectation and perception dimensions between males and females. The expectation dimension for Mann-Whitney  $U = 17335.0000$ ;  $z = -0.877$ ;  $p > 0.05$  and the perception dimension for Mann-Whitney  $U = 16872.0000$ ;  $z = -1.305$ ;  $p > 0.05$ . Therefore, behaviour did not vary because of gender difference.

**Relationship between length of smartphone usage with study dimensions (expectations, perceptions, satisfaction and smartphone stress)**

**Table 4.17: Kruskal Wallis Test – study dimensions by length of smartphone usage**

	Chi-Square	Df	P
Expectations	1.280	4	.865
Perceptions	<b>10.705</b>	<b>4</b>	<b>.030*</b>
Satisfaction	3.207	4	.524
Smartphone Stress	2.664	4	.616

The results show a statistically significant difference in the mean ranks of the perception dimension among the Length of smartphone use groups (Chi – Square = 10.705; Df = 4;  $p < 0.05$ ). The results focus on duration of ownership and its effects to experiences and Table 4.18 illustrates that perception vary over time. However, there was no statistically significant difference in the mean ranks of the expectations (Chi-Square = 1.280; Df = 4;  $p > 0.05$ ), satisfaction (Chi-Square = 3.207; Df = 4;  $p > 0.05$ ) and smartphone stress dimensions (Chi-Square = 2.664; Df = 4;  $p > 0.05$ ) for the length of smartphone usage.

**4.2.10 Reliability**

Cronbach’s Coefficient Alpha was used to establish internal consistency and reliability of the research questions.

**Table 4.18: Reliability test results**

<b>Study Variables</b>	<b>Cronbach's Alpha</b>	<b>No. of Items</b>
Expectations	0.821	11
Perceptions	0.801	11
Satisfaction	0.856	11
Smartphone Stress	0.852	11
Changes	0.621	4

According to Sekaran and Bougie (2010:325), reliabilities less than 0.60 are considered to be poor, those in the 0.70 range acceptable and those over 0.80 good. The alpha coefficients of perceptions, expectations, satisfaction, and stress categories have satisfactory scores all above 0.80. The change category has a value of 0.621 which indicates medium internal consistency and reliability. Therefore, with four categories all above 0.80 and a range of 0.621 to 0.856, the instrument can be considered as acceptable to good. The instrument was, therefore, deemed reliable.

#### **4.2.11 Validity**

To ascertain whether the questionnaire measured what it is supposed to measure, two sets of factor analysis were conducted. The first used the study variables perceptions and expectations and the second used the study variables satisfaction, smartphone stress and changes. Perceptions and expectations are the main study variables and accordingly were treated separately.

##### **4.2.11.1 Factor analysis; expectations and perceptions**

Prior to factor analysis being undertaken, the Kaiser-Meyer-Olkin (KMO), Measure of Sampling Adequacy (MSA) and Barlett's Test of Sphericity were run to determine whether the data can be subject to factor analysis.

**Table 4.19: Results of KMO and Bartlett's test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.818
Approx. Chi-Square	2571.762
Bartlett's Test of Sphericity Df	231
Sig.	0.000

**Table 4.20: Total variance**

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	4.232	19.236	19.236
2	3.982	18.099	37.335

According to Hair, Anderson, Tatham and Black (1998), the KMO Measure of Sampling Adequacy (MSA) must be 0.60 and higher and the Bartlett's Test of Sphericity must be significant. The results in Table 4.20 show the MSA is 0.818 and Bartlett's Test as significant. Accordingly, factor analysis can be performed.

Furthermore, a Principal Component Analysis was conducted to determine the number of components (factors) that can be extracted. The results are shown in Table 4.21 and reveal that component (factors) with eighteen values greater than one were extracted. Component 1 accounted for 19.236% of the total variance while component 2 accounted for 18.099%.

For the interpretation of the components, a Varimax Rotation was performed. The results are shown in Table 4.21.

**Table 4.21: Rotated component matrix**

Expectations/Perceptions	Component	
	1	2
Easy to use	.434	.001
Storage capacity	.578	.018
Convenience	.613	.030
Display	.572	.007
Battery life	.289	.027
Life style	.686	.020
Productivity	.641	.041
Value	.666	.038
Fashion	.676	.081
Social networks	.735	.065
Entertainment	.728	.043
Easy to use	.161	.523
Storage capacity	.037	.624
Convenience	.040	.557
Display	.108	.529
Battery life	.078	.270
Life style	.038	.620
Productivity	.019	.637
Value	.047	.612
Fashion	.012	.644
Social networks	.125	.732
Entertainment	.076	.722

Table 4.21 reveals that component 1 represents the questions relating to expectations and component 2 relates to perceptions. However; the rotated matrix reduced these factors to two major categories as follows:

- Factor 1: was identified as expectations; and
- Factor 2: perceptions.

#### 4.2.11.2 Factor analysis; satisfaction, stress and changes

The factor analysis test was conducted to check for validity of the instrument per individual strata of data that is, satisfaction as a strata, followed by stress and changes.

**Table 4.22: Results of KMO and Barlett's test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.833
Approx. Chi-Square	3521.868
Bartlett's Test of Sphericity Df	325
Sig.	.000

**Table 4.23: Total variance**

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	4.684	18.017	18.017
2	4.218	16.224	34.241
3	2.581	9.926	44.167

The results in Table 4.22 show the MSA to be 0.833 and Bartlett's test is significant. Accordingly, factor analysis can be performed. Furthermore, a principal component analysis was conducted to determine the number of components (factors) that can be extracted. The results are shown in Table 4.23 and reveal that component (factors) with eighteen values greater than one were extracted. Component 1 accounted for 18.017% of the total variance, while Component 2 accounted for 16.224% and component 3 accounted for 9.926%.

To make the components interpretable, a Verimax rotation was performed. The results are shown in the Table 4.24.

**Table 4.24: Rotated component matrix on satisfaction, stress and changes**

	Component		
	1	2	3
Main menu	0.560	-.068	.159
Screen size	0.689	-.012	.005
Applications	0.663	-.042	.211
Storage capacity	0.668	-.068	.198
Camera	0.691	-.025	.018
Brand name	0.685	.160	.040
Communication	0.630	.049	.010
Emotionally attached	0.519	.061	.107
Appearance	0.719	-.029	.143
Compatibility	0.666	.105	-.094
Processor speed	0.617	-.161	-.026
Navigation is difficult	0.084	.440	.326
Keys are too close	-0.007	.445	.557
Screen is small	-0.095	.532	.405
Battery dies quickly	0.042	.576	-.099
Web pages are slow to download	-0.032	.764	.075
Difficult to use internet	-0.050	.773	.103
Websites not optimised for mobile phones	-0.082	.746	.212
Other features are useless	0.079	.678	.032
Storage capacity is small	-0.022	.668	.082
The phone is too thin it falls regularly	0.040	.399	.321
Value	-0.076	.498	.363
Increased size of key pads	0.002	0.004	0.645
Prolonged battery life	0.082	0.219	0.264
Increased screen size	-0.059	0.132	0.770
Increased thickness of the phone	0.054	0.114	0.675

The rotated matrix reduced these factors into three categories as follows:

- Factor 1: satisfaction;
- Factor 2: stress/challenges; and
- Factor 3: changes.

These inferential statistics were used to compare and contrast the findings in the second part of this chapter which follows below.

### **4.3 DISCUSSION OF RESULTS**

The above section is a commentary of observations of how the participants in the study have rated the experiences. Therefore, this section interprets, evaluates and discusses the findings. From the results, the following findings are interpreted, evaluated and discussed regarding to smartphone usage experiences; biographical information, smartphone ownership, expectations and perceptions, satisfaction, smartphone stress and change issues relating to DUT respondents. The findings are discussed under four main study dimensions: expectations (prior to purchase), perceptions (after purchase experiences) satisfaction (when expectations are matched against perceptions) and stress (post-purchase challenges).

#### **4.3.1 Biographical Information**

##### **4.3.1.1 Age**

The results in Table 4.1 show that the majority of the respondents (89.9%) grouped into the age group 18 – 25 years, followed by the 26 – 35 group (8.5%) and the 36 – 45 group (1.6%). The findings of this study maybe due to the fact that university students are young, in general. According to the Durban University of Technology annual report (2012: 26), the grand total of graduates is 5 900 and composed of 68 post-graduates and 5 832 being under-graduates. Therefore, this concurs with the higher percentage found in the 18- 25 age group which, in general, is made up of under-graduates which, in most cases, are recently graduated matriculates. Accordingly, a study conducted at the University of Cape Town by North *et al* (2013: 125) revealed that, out of 362 respondents, 309 were under-graduates and 52 were post – graduates.

The results of the Kruskal Wallis test in Table 4.16 present relationships between the respondents' age and study dimensions. The findings of this study reveal that there is no statistically significant difference in the relationships of the study dimensions matched against the age as the controllable variable. The expectation ( $p = 0.139$ ), perceptions ( $p = 0.385$ ), satisfaction ( $p = .157$ ) and stress ( $p = 0.9670$ ) results depict that no real conclusion can be made regarding age as few older than 25 answered the questionnaire and the categories prove to be very wide. However, consumer buying correlates to age. Therefore, marketers can segment the smartphone market using age as a demographic factor. The different target strategies can be implemented in each different age segment. Superimposing, Solomon (2010) describes age segmented market as an age cohort that consists of people with similar ages who have similar experiences.

The findings of this study concur with a previous study by Findahl (2013: 5-6) who postulates that young people between the ages of 18 to 25 years are the most active and the main drive in the growth of smartphones. Furthermore, according to Synovate (2009), 87% of South Africans aged 16 to 24 declared that they could not live without the smartphones. Furthermore, the generation Y (age group 18 – 35) is technologically alert and use technological devices more than older groups.

Therefore, these findings show that the questionnaires were answered with the correct target group and this increased reliability.

#### **4.3.1.2 Gender**

The results in Table 4.2 points out that the majority of the respondents' composition selected at the DUT is male dominated (56.7%) and minorities (43.3 %) are females. These findings show that there was no gender bias. Instead, there was proper representation so that the results can be generalised to the entire populace. Albeit the males have a higher number of representatives in the study, this does not necessarily mean that DUT is male dominated. The findings of this study may be due to the facts that respondents were selected from that were available during the data collection. Moreover, this study was not confined to a specific gender category it was investigating the available respondents at that time.

Previous research studies of mobile phone usage by South African university students by North *et al.* (2014: 125) reveal also that more male students (198) participated in the study of mobile phones as compared to female students (164).

Even though, mobile phone studies in South Africa are proving to have more male respondents, it is different in other countries. For example, Beaver, Knox and Zusman (2010: 630) found that parents of university students in the USA are more worried about daughters' safety than the sons' safety. Therefore, parents may be more insistent that daughters carry a mobile phone at all times. One would argue that in a nation like South Africa, with a high crime rate female students should score higher than males.

However, male students (from USA), who use mobile phones less in conversation, were found to participate in video games a lot more often than females, which may result in male students spending a greater amount of time on the smartphones (Jackson, Von Eye, Fitzgerald, Zhao, and Witt, 2010).

Table 4.17 tested the relationship of the study dimension against gender. The findings revealed results for the satisfaction dimension (Mann Whitney U = 16104.000;  $z = -2.013$ ;  $p < 0.05$ ) and the smartphone stress dimension (Mann Whitney U = 16146.500;  $z = -1.972$ ;  $p < 0.050$ ). Using the Mann U, results for males and

females vary. The lower the Mann U, the more the difference. However, expectations and perceptions did not vary as the Mann U was higher and the p value greater than 0.05. Furthermore, according to Sata (2013: 104), the role of gender is changing and males and females have different views of consumer traits, information processing, and decision making styles and buying patterns.

### **4.3.2 Smartphone ownership**

The study used convenience sampling method therefore only participants with smartphones were used in the study.

#### **4.3.2.1 Student smartphone ownership**

Table 4.2 indicates that all the respondents use smartphones as the primary mobile phone. These findings are deemed interesting and relevant because South Africa has a mobile penetration rate of over 100% consisting of entry-level feature phones to smartphones (International Telecommunication Union, 2013). Literature reviews in the first chapter of the study holds, that in South Africa, a country often regarded in many ways as a pioneer for the rest of the continent, there are many active cellphone subscribers as inhabitants (Kreutzer, 2008: 1). These findings justify the inquiry into smartphone user experiences.

100% smartphone ownership rate can have been made possible because students can afford to buy cheaper smartphones supported by cheaper Android devices, which are currently selling below R700, an initiative to unlock the smartphone revolution for a wider audience (Vodacom Network Operator, 2011).

Furthermore, these findings do increase the validity and reliability of the instrument used for the study, because it did investigate a group proving to be very popular with smartphone usage.

#### **4.3.2.2 Duration of smartphone usage**

Table 4.3 shows that 31.9% of the respondents have used the smartphone for a year but less than three years; 28.8% for six months but less than a year; 19.7% under six months; 14.8% over three years and 4.9% cannot recall. These findings show widely spread results. This may-be due to respondents being in different years of studies, for example, first years, second years and so on. Therefore, the results highlight that respondents are in different stages of social inclusion, connectedness and, hence, their experiences with smartphones.

The Kruskal Walls test in Table 4.18 indicates that perception experiences are affected by the length of ownership time frame. This might be because respondents find it stressful to use smartphones during the first days of ownership finding the navigation difficult due to unfamiliarity with the features. Furthermore, the perception experience can swing from time to time as over staying with one mobile device can create loyalty

or dissonance in the sense that a student can be bored with using the same old phone instead of adopting the new trends. However, such time frames can be different from one respondent to another. According to the Kruskal Walls test expectations, satisfaction and smartphone stress dimension were not affected by time frame.

#### **4.3.2.3 Brand preference**

Figure 4.2 depicts that the majority of respondents (54%) use the Blackberry smartphone. Nokia follows the hierarchy with 21%. Samsung smartphones are represented by 17.1%. LG smartphones are represented by 6.8% and other brands are represented by a minority 2.1%. These findings correspond to research done by Business Tech (2013), who found that Blackberry is the most used handset among the South African youth. It was found that more than half (57%) of students use a Blackberry handset, with Nokia a distant second at 20% with Samsung third (14%) and the iPhone fourth at 5%. Explanation for this may be because of the fact that a product with a good reputation creates high level of preferences. Prior literature in the second chapter of this study highlighted that brand plays a vital role in the process of customer preference and choice of products. Furthermore, a famous brand can spread the benefits of the product (Keller, 1993).

Therefore, experience is initially shaped by impressions of the brand (Kothari and Lackner, 2006: 243). The studies done at UCT by North *et al.* (2014) point out that the most common brand of mobile phone purchased by students is Blackberry. These findings emphasize that the brand is important to students' experience with smartphones. Hammond (2008: 14) claims that a brand is defined in the total emotional experience a customer has with the touch points of an offering.

Prior literature reviews also support that brands create the usage preference. According to Meyer and Schwager (2007: 3), brands shape customers' expectations by embedding the fundamental value proposition in the offerings of every feature. Yet, the evolution of brands shifted its focus from differentiation to representation and, furthermore, from embodiment to meaning (Berthon, Pitt, Chakrabarti, Berthon and Simon, 2011). As consumers in developed markets found numerous ways of satisfying their basic consumption needs, they focused on higher meaning in making brand choices which is an important implication for brand management. (Djerv and Malla, 2012).

In the efforts to search for smartphone usage preference and brand preference, respondents were asked about what brand they owned before the current one. Figure 4.3 highlights the brands, trends and patterns evolving within the university students' life styles. The results presented shows that Nokia holds a majority of 65.5%, LG 14.8%, other brands 9.6%, Motorola 8.1% and Alcatel 10%. Through this question, the findings show that there is no particular brand loyalty dominating since respondents adopt the current trends.

#### **4.3.2.4 Motivation towards purchase**

Figure 4.4 indicates that respondents were prompted to buy smartphones by the desire of social networks (58.2%); followed by the need for convenience (44.9%); and then entertainment (31.4%); social status (29.1%) and productivity (25.2%), respectively. These findings provided a valuable snapshot of reason to acquire and use smartphones. Not surprisingly, social networks and entertainment prompted the majority of DUT respondents to use smartphones. At the same time, it is pointed out that convenience to contact others, regardless of time and location, spur students to use smartphones. These findings support the common emergent factor across most related studies (Balakrishnan and Raj, 2012; North *et al.* 2014 and Walsh *et al.* 2008) aligning with literature which state that the most commonly found reason for using a smartphone by university students was that of socialising and convenience.

Moreover, DUT respondents considered a smartphone as a status symbol. Previous research from the USA, Holland and Malaysia heralds that smartphones are more than communication, but, a symbol of status and sign of social progress to the user (Balakrishnan and Raj, 2012; Bouwman *et al.* 2008; Castillo *et al.* 2009). Therefore, a name holds much more than just a name. It exudes status, personality, and life style among the many attributes with which students desire to be viewed.

#### **4.3.2.5 Smartphone adoption**

This section highlighted the adoption experience with smartphones. Table 4.4 depicts 47.2% of respondents have satisfied experiences; 38.6% around the clock convenience; 38.3% considered that status has improved; 11.9% herald that nothing has changed and 10.4% show students having bad experiences. The findings show that DUT students are satisfied with the convenience, connectedness, and status enhanced by the smartphones. However, signs of dissonance are also depicted with the other portion of participants highlighting the bad experiences with the device. Literature aligns with these findings. Riquelme (2001: 443-444) examines how much self-knowledge consumers have when choosing between mobile phone brands. Consumers with prior experience about a product can predict the preferences relatively well. He further highlights that if consumers have limited knowledge, it might result in them being more susceptible to experience cognitive dissonance.

### **4.3.3 Expectations and perceptions**

This section discusses and examines the actual students' experience with smartphones relative to the expectations and actual perceptions.

#### **4.3.3.1 Expectations**

The findings of this study show that the majority of respondents expected the smartphone to be easy

to use; to have a sufficient storage capacity; have around the clock convenience; have clear display of output; have a sustained battery life; compatible with the life styles; productivity enhancing; have value addition; reveal a fashion statement and stay entertained. Furthermore, Table 4.11 shows the results of the measure of central tendency (mean) which was 3.7225. These results further suggest that respondents agreed that the experiences before ownership (expectations) were positive. The explanation for this may lie in the fact that the South Africa university students (digital natives) live in a global village connected together by technology. Therefore, exposed to adverts that carry media messages that do the campaign for the smartphones. Furthermore, these messages, in-turn shapes positive expectations.

These findings are consistent with literature and what Babin and Harris (2013: 290) term ideal expectations. They claim that these are what the consumers really want to happen during an experience if everything were ideal. However, less attention has been given to expectations in the smartphone research. Prior research used anticipation interviews to understand what expectations of users had of smartphones, in general, and the image of the smartphones in particular. Therefore, the findings suggest that there may be a large gap between expectations and actual experiences, in practice, of representative users.

#### **4.3.3.2 Perceptions**

The findings of this study revealed that the majority of DUT students perceived smartphones to be easy to use; to have a sufficient storage capacity; have around the clock convenience; have clear display of output; compatible with the life styles; productivity enhancing; have value addition; reveal a fashion statement and stay entertained. On the contrary, the majority also experienced negative perceptions relating to the battery life being shorter than expected. However, the experiences after and during ownership can be considered positive with a mean of 3.8488. The minority of subjects also perceived the experiences negatively as highlighted in few difficulties in the use of smartphones. This is evidenced by a standard deviation of 0.61681. These results show that there were variations from the mean in the responses as some respondents strongly disagreed while the majority strongly agreed. These findings may be due to the fact that students interact and discuss, hence, the somewhat similar pattern in the understanding of experiences. Further, the way students interpret experience in order to give it meaning is influenced by many factors.

Contributing to the discussion, it clear that the findings are consistent with literature by Hollensen (2010: 36) who states that the product is purchased not for itself but the promise of what it will deliver. Hence, the results support the theoretical framework of this study.

#### **4.3.4 Satisfaction**

The results in Table 4.7 indicate a snapshot of the respondents' experience with smartphone features. The table depicts that 82% of the respondents are satisfied with main menu, 86.4% with the screen size; 67.8%

have good experiences with smartphone applications; 82.4% are happy with storage; 81.6% enjoy the camera; 80.3% love the brand name; 90.4% enjoy around the clock communication provided by the smartphone; 67.9% are emotionally attached to the smartphone; 81.7% are happy with the aesthetics of the device; 87% are satisfied with the compatibility and 76.2% enjoy the processor's speed. These findings show that the majority of DUT students are satisfied with the mobile phone experience. These findings may be attributed to the fact that the students are using preferred brands. Results in Table 4.5 show that more than half of respondents use Blackberry, followed by Nokia and then Samsung closely. In support, North *et al.* (2014: 133) found out that UCT students considered brand and aesthetics as important factors in smartphone usage.

The findings of this study are consistent with literature. According to Gerogiannis *et al.* (2012:157), the diversity of characteristics or functionalities possessed by this device positively impacts the smartphone users' satisfaction that can be attributed to issues like perceived convenience, usability, efficiency and security. Furthermore, prior researches have delved customer satisfaction from slightly different angles. Khyati and Dhingra (2013) investigated customer satisfaction using brand to benchmark and McGrawill (2013) used brand to assess aspects, such as, performance, physical design, features, and ease operation. Therefore, these findings add to the gaps left behind by prior works.

The study also interprets satisfaction levels by comparing expectations and perception experiences of DUT students to be consistent with literature. Tsai *et al.* (2010) state that customer satisfaction is a positive or negative feeling that is brought about by comparing pre-consumption and post-purchase experience. Furthermore, if the performance falls short of expectations, the customer is dissatisfied. If it matches expectations, the customer is satisfied. If it exceeds expectations, the customer is highly satisfied or delighted (Kotler and Keller, 2012: 14). In-line with literature, these studies compares and contrast pre-consumption and post-purchase experience in Table 4.26.

**Table 4.25: Comparison of pre-consumption and post-purchase experience**

	[E x p e c t a t i o n s		[P e r c e p t i o n s	
Smartphone Dimension	Satisfied (Agree/Strongly Agree)	Dissatisfied (Disagree/Strongly Disagree)	Satisfied (Agree/Strongly Agree)	Dissatisfied (Disagree/ Strongly Disagree)
Feature	Percentage	Percentage	Percentage	Percentage
Easy to use	64%	19.7%	82.3%	13.4%
Storage capacity	65.8%	13.5%	78%	14%
Convenience	69.9%	6.2%	82.7%	7%
Display	67.6%	10.6%	80.6%	17.7%
Battery life	46.4%	26.2%	31.3%	56.5%
Life style	69.2%	8.5%	78.2%	10.6%
Productivity	66.9%	7.5%	73.1%	8.8%
Value	69.4%	12.7%	72.5%	17.8%
Fashion	64.2%	11.4%	72.8%	15.3%
Social networks	79%	10.6%	91.2%	5.7%
Entertainment	79.3%	8.5%	88.1%	7.5%

The Table 4.25 depicts a simple comparison of expectation and perception findings to understand DUT respondents’ satisfaction levels. Positive expectations are all below positive perceptions besides battery life. Therefore, the majority of the respondents were satisfied with their experiences. This finding is consistent with literature Gerogiannis *et al.* (2012:157 are also of the view that smartphones are energy hungry devices and users tend to prefer models characterized by efficient battery functionality. Further, the negative expectations are close to negative perceptions with the exception of battery life. Thus, most of the expectations matched. Therefore, the results show customer satisfaction as a product of what the customer was expecting from the product and what is actually experienced. Thus, the smaller is the gap between expectations and performance, the greater the satisfaction.

Further contributing to the discussion, statistical results from bivariate Spearman’s correlation test show that there was a positive and significant correlation between the expectation and perception experiences ( $\rho = 0.163$ ;  $p < 0.01$ ). However, there is no significant correlation between expectation experience and satisfaction

( $\rho = 0.063$ ;  $p > 0.01$ ). Furthermore, there is a positive and significant correlation between perception experience and satisfaction ( $\rho = 0.406$ ;  $p < 0.01$ ). These results mean that expectation experiences did shape the perceptions and, in-turn, perception did shape satisfaction experiences. Literature contains sufficient examples to show that satisfaction is, therefore, a positive or negative feeling that is brought by comparing pre-consumption expectations and post-consumption perceptions (Tsai *et al.*, 2010). According to these findings, there is a positive correlation between expectations and perceptions with a correlation coefficient of 0.163. This shows a weak positive relationship. The p value is 0.001, which is below 0.05, which means that the results are statistically significant. However, expectations and satisfaction, and expectations and smartphone stress have no relationships because the p values are 0.22 and 0.292, respectively. This is because these two values are above 0.05.

Furthermore, there is a positive correlation between perception experience and satisfaction with a correlation coefficient of 0.406. This is a positive weak relationship. This relationship is statistically significant as the p value is 0.00. If the correlation coefficient is squared, it gives 0.1648 which is 16%. This means 16% of satisfaction is brought by perception and the remaining 84% is brought by other factors.

Table 4.25 also reveals that there is a negative correlation between satisfaction and smartphone stress with a coefficient of -0.137. This is a very weak negative relationship. As satisfaction with the smartphone increases, the stress with the smartphone will go down. Squaring the correlation coefficient gives 1% which means 1% reduction in smartphone stress is explained by satisfaction. The remaining 99% is explained by other factors. This relationship is statistically significant because the p value is 0.007, which is smaller than 0.05.

In the endeavor to further elucidate satisfaction levels by comparing expectation experiences and perception experiences, two hypotheses were formulated and Wilcoxon Signed Rank test was done.

#### **4.3.4.1 Hypothesis 1**

***There is a statistically significant difference in the expectation experience and perception experience of the subjects.***

Table 4.15 illustrates that there is a statistically difference when DUT respondents' expectations are matched against the actual perceptions ( $z = -2.855$ ;  $p < 0.04$ ). This means that the data are sufficiently convincing and the p value, which denotes perception experiences, exceeded the z value, which stands for expectation experiences. These results mean that DUT students were satisfied with the smartphones. Literature concurs that, if the performance falls short of expectations, the customer is dissatisfied. If it matches expectations, the customer is satisfied. The customer is delighted if perceptions exceed expectations (Kotler and Keller, 2012).

#### 4.3.4.2 Hypothesis 2

***There is a statistically significant difference in the influence of the biographic variables (age, gender and length of smartphone use) on the study dimensions.***

Table 4.15 shows that there is statistically significant difference in the mean ranks of the study dimensions among the age groups. These findings are best explained by different age categories used in the questionnaire. The study focused its investigation towards a university set up. Therefore, different age groups are undeniable. Consistent with literature, Findahl (2013: 5-6) superimposed these findings by stating that young people between the ages of 16 to 25 years are the most active and the main drivers in the growth of smartphones. Table 4.1 supports these findings by highlighting that 89.9% of DUT respondents are 18-25, 8.5% in the age group of 26-35 and 1.6% in the 36-45 age group.

The results in Table 4.16 show a statistically significant difference in the mean ranks of the satisfaction dimension (Mann Whitney U = 16104.000; Z = - 2.013; p < 0.05). These results indicate different satisfaction levels in DUT students by comparing gender-related issues. Furthermore, the Mann-Whitney U test results also illustrate that there was no statistically significant difference in the mean ranks of the expectation and perception dimensions between males and females. Prior research studies show that the gender differences are not constant throughout the world. For example, research by Balakrishnnan and Raj (2012) found that Malaysian females were more interested in usability of a mobile phone than male counterparts who preferred to have the best brand.

Satisfaction levels were also measured in relation to the length of smartphone ownership. Results in Table 4.18 show a statistically significant difference in the mean ranks of the perception dimension among the length of smartphone use groups (Chi – Square = 10.705; df = 4; p < 0.05). However, there was no statistically significant difference in the mean ranks of the expectations. Explanation for this may be because of the fact that smartphones have several features. Therefore, users might find them to be complex in the early days of use. Literature concurs with these findings. Gerogiannis *et al.* (2012: 157) state that smartphones, by offering functionalities similar to personal computers, may become complex and learning consuming devices and, consequently, novice technology users may be discouraged from using them.

#### 4.3.5 Challenges/smartphone stress

Results in Table 4.7 reveal that 20.2% of the respondents agree that navigation is difficult; 37.3% feel the key pads are too close; 25.6% state that the screen is small; and a significant 65.8% report that the battery dies quickly; 35.7% say the web pages open very slowly; 31.1% are of the idea that downloading is slow; 29.6% show that websites are not optimised for smartphones; close to half (45.1%) agree that other features are useless to them; 36.3% reported that storage capacity is too small; 24.6% are of the view that the phone is

too small and falls regularly and 29.8% expressed second guessing about value for money. Though cognitive dissonance is present, it seems that the respondents experienced little dissonant feelings. The statistical measure of central tendency results in Table 4.10 (M= 2.7633) confirm that DUT students did not experience cognitive dissonance. However, the standard deviation illustrates that there were variations from the mean in the response, as some subjects strongly disagreed (Min. = 1.00) whilst others strongly agreed (Max. = 5.00) on the views.

These findings are in harmony with prior research. According to Kraappa (2011: 51), subjects experienced little dissonant feelings. The majority of them were either satisfied or very satisfied. Further, she states that results of smartphone stress and enjoyment did not affect satisfaction. Drawing from this research results, Table 4.13 reveals that there is a negative and significant correlation between satisfaction and smartphone stress. The higher the satisfaction levels, is the less the cognitive feelings.

#### **4.3.6 Changes to be implemented towards improving overall experience**

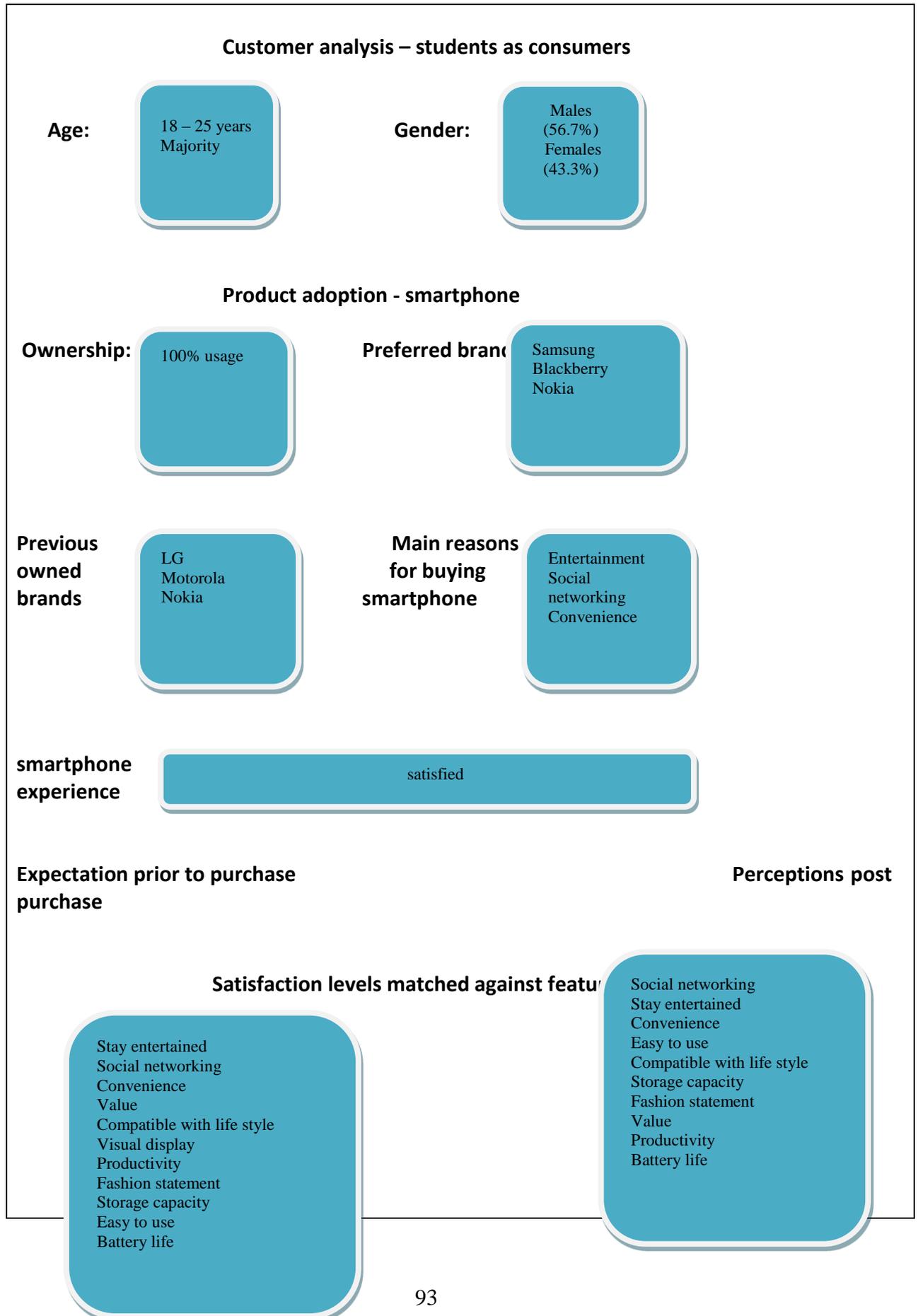
Drawing from the results in Table 4.8, close to half of the respondents (40.1%) suggested an increase in the size of the key pads whilst half of the respondents (50.1%) disagreed to the fact and 9.6% were neutral. The majority (77.5%) agreed to the fact that the battery should be prolonged, albeit a mere 15.6% disagreed and 7% were neutral. A significant 42.5% agreed to increase the screen size whilst 46.2% disapproved and 11.4% were neutral. The findings also highlight that 30.6% of respondents voted for increased phone thickness though more than half (55.4%) disapproved and a minority of 14% were neutral. Furthermore, 1% suggested changes in weight; 1.6% voiced for improved sound output; 0.8% suggested a waterproofed smartphone; 1.8% suggested revised storage capacity and 1.3% suggested a much faster processing speed.

The explanation of these findings may be due to the fact that; the subjects use different types and models of smartphones. Therefore, one man's meat is another man's poison. Thus, a smartphone feature that is loved by the other might be considered useless with the next user. According to this study users have different brands. Therefore, they have different experiences. The literature review highlights that the secret to a good experience is not in the multiplicity of features on offer, but the ultimate value the customer derives (Meyer and Schwager, 2007: 3).

#### **4.4.7 Proposed model: smartphone experience**

The framework for smartphone experience from the university students' perspective is shown in Figure 4.5. The components of the frame work are outlined further in the following discussion section of this study.

Figure 4.5: Proposed model – smartphone experience



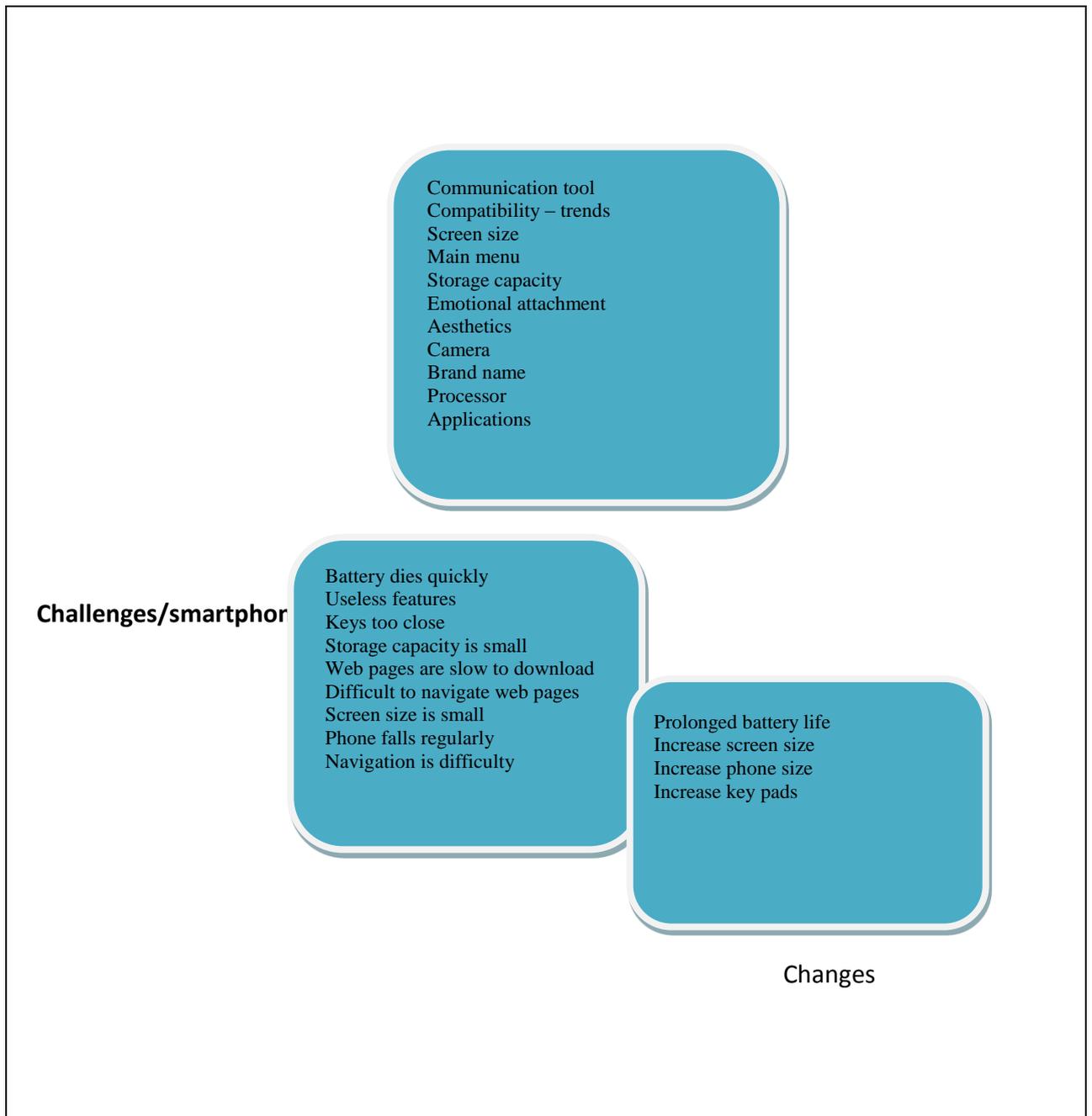


Figure 4.5 shows the summarized study in a diagrammatic form. Results are presented in hierarchical order ranked with the highest rated responses on top.

#### 4.5 CONCLUSION

This chapter presented, interpreted and discussed results which were obtained from the research questions. Descriptive and inferential statistics were used to set a stage to discuss the empirical findings. The pre-consumption and post- consumption experiences were identified and compared to understand students'

satisfaction levels. Findings drawn revealed that students were satisfied with the smartphone experiences and experienced few difficulties during use.

The chapter also presented the proposed model of smartphone experience highlighting the entire study in a panoramic view. The following chapter will summarize the findings of the study. Conclusions will then be linked to the research objectives and research problem. Likewise, the implication for the theory will be discussed together with practical issues. Finally, recommendations for change and possibilities of future research will also be discussed.

## **CHAPTER FIVE**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

This chapter summarizes the findings and discusses conclusions, recommendations and implications drawn from this study. Likewise, conclusions will be drawn from the primary research problem and research objectives. The later section of this chapter will outline research limitations and make recommendations for future study based on this research finding.

#### **5.2 CONCLUSIONS ARISING FROM LITERATURE REVIEW**

The aim of the study was to investigate students' experience with smartphones and specific reference was drawn from a sample made up of 286 DUT students. This study investigated the pre-purchase experiences (expectations) and post-purchase experiences (perceptions) in order to identify satisfaction levels from the perspective of students.

According to the review of literature in the second chapter of this study, it was found that consumers see products beyond the aesthetics and frills. Palmer (2010: 40) supports this view and states that, what people really desire are not products, but satisfying experiences. In consistence, Meyer and Schwager (2007:2) claim that the secret to a good experience is not the multiplicity of features on offer but the ultimate value the consumer derives. Therefore, this study concludes that good experiences are not only derived from a well-crafted multiple feature smartphone phone. This is only a small piece of the experience puzzle.

Literature also showed that customers do have expectation experiences before the moments of truth which, in turn, used against actual perception experiences to deduce satisfaction levels. Babin and Harris (2013: 289 - 290) postulate that expectations are pre-consumption beliefs of what will be okay during an exchange and/or consumption of a product. Whilst, perception is a process by which people select, organize and interpret sensory stimulation into a meaningful picture of the world. Put another way the product is purchased not for itself but the promise of what it will deliver (Hollensen, 2010: 36). The study concludes that satisfaction, therefore, is measured from the eye of the consumer and not from the retailer's view. Hence, customers should be viewed in a renewed way to consider the well-known concept of consumption. Furthermore, after matching expectations and perceptions, it results in the post-purchase stage which is composed of satisfaction or cognitive dissonance.

### 5.3 CONCLUSION FROM EMPIRICAL STUDY

According to the findings of this study, there is a positive correlation between expectations and perceptions with a correlation coefficient of 0.163. Furthermore, there is a positive correlation between perception experience and satisfaction with a correlation coefficient of 0.406. This is a positive weak relationship. This relationship is statistically significant as the p value is 0.00. When the correlation coefficient is squared, it gives 0.1648 which is 16%. This means that 16% of satisfaction is explained by perception and the remaining 84% is explained by other factors. Table 4.13 also reveals that there is a negative correlation between satisfaction and smartphone stress with a coefficient of -0.137. This is a very weak negative relationship. As satisfaction with the smartphone increases, then stress with the smartphone will go down. Squaring the correlation coefficient gives 1% which means 1% reduction in smartphone stress is explained by satisfaction. The remaining 99% is explained by other factors. This relationship is statistically significant because the p value is 0.007, which is smaller than 0.05. Furthermore, according to Mann – Whitney U test, the expectation and perception behaviour did not vary because of gender.

Therefore, this study concludes that expectations can be benchmarked to perceptions to measure satisfaction/cognitive dissonance levels. Despite findings in the fourth chapter showing that respondents were satisfied with smartphone experience, it is of paramount importance for the study to highlight that satisfaction is only an ingredient of overall customer experience. Thus, evidenced with the findings in Table 4.8, respondents highlighted the difficulties of using the smartphones such as key pads closeness; battery dying quicker than desired; websites not optimized for smartphones; and small screen size.

### 5.4 ATTAINMENT OF RESEARCH OBJECTIVES

To determine customer experience with the smartphones, the objectives that were used to support this study are discussed as follows:

- **To examine actual students' experience with smartphones relative to the expectations and actual perceptions**

The foregoing results have shown that respondents had positive expectations towards good smartphone experiences. Actual perceptions, likewise, were positive, though with variations in response. In essence, it was discovered that the DUT students were satisfied with smartphone experience despite minimal difficulties encountered.

- **To establish student satisfaction levels at all contact/touch points**

The analysis of dimensions depicted that respondents were satisfied with the smartphone experiences. The results discovered that reasons which prompted students to buy smartphones were exceeded by actual

perception experiences. In another words, pre-consumption experiences were discovered to be outweighed with post-purchase experiences. Hence, customers were satisfied.

- **To identify key drivers towards smartphone usage preferences**

The results found that students emphasize more on trends than usability. The results discovered that students buy smartphones for fashion statements; status; social networks and entertainment rather than for productivity. Blackberry was discovered to be the most sort-after brand. Another insight on preference was uncovered investigating smartphone features and usability. Students preferred smartphones that are easy to use, with high processing speed, with big screens, and with a sustainable battery life.

- **To establish if cognitive dissonance exists amongst students using smartphones**

The results established that cognitive dissonance was present. However, it was minimal. Students were not happy with certain features of the smartphone, for example, battery life, screen size, closeness of key-pads and other features considered as frills which are useless.

## **5.5 DISCUSSION AND IMPLICATIONS IN REGARD OF RESEARCH OBJECTIVES**

According to the literature and empirical findings of this study, it can be implied that customer experience is more important than having well-made phones. In essence, this view, as derived from this study experience, is a series of events; and one could imply that the net result of good ones minus bad ones leads to satisfaction or cognitive dissonance (smartphone stress). It is, therefore, a journey which commences before purchase and lives on during purchase and consumption. Therefore, satisfaction is not made up of a once-off experience. Rather, it is a process.

When it comes to expectations and perceptions, subjects indicated them to be positive. This result may imply that university students buy products that are compatible with themselves. Accordingly, De Mooij (2011: 113) states that people will buy products that are compatible with the self-concept or rather enhance the ideal self-images. In contrast, perceptions showed variations as subjects marked strongly agree and some strongly disagree, for example, with the battery life variable. This result may imply that smartphone features do not always work as expected or promised. Accordingly, customers have become more mature and well informed. Therefore, gone are the days when an innovation would give delightful experiences across all touch-points, let alone for longer periods.

The findings discovered that DUT respondents were satisfied with the smartphone experience, though with few difficulties. This finding lends support for implications that some technological innovation, try to appear innovative by packing up features, and some work against value expected by the consumer. Therefore, in this regard, this view implies that, to meet user expectations, many issues have to be considered as well as trade-

offs between them. These findings also imply that customer experience is an on-going process. It will never stop it is, therefore, revolving. A satisfied need today will seek new and better ways to be gratified tomorrow. Hence, customers will be looking for smartphone manufactures to re-design and create better experiences always. Likewise, Fauds and Mangold (2009: 363) products that are fun, intriguing, highly visible easy to use, and which engage the emotions and which can be properly employed by consumers to co-create own unique experiences. Furthermore, Gallo (2012: 3) accordingly writes that, when the Apple store celebrated its tenth anniversary, the majority of the media credited its success to products and design. However, Gallo (2012: 17) point out that products and design are but small piece of the experience puzzle. These views imply that expectations and perception experiences should not only focus on the product, but on all other marketable entities.

Furthermore, the findings discovered that the majority of students preferred a Blackberry brand. Moreover, the majority of students preferred the smartphone for convenience, status, social networks and entertainment rather than for productivity. These findings may imply that university students follow trends rather than rationale decisions. The results may also imply that students are heavily influenced with friends and the needs for recognition and belonging shape the expectation experiences and perception experiences. Moreover, the other empirical implication is that students prefer interface simplicity without difficulties during consumption that fit well with the life styles.

Contributing to the discussion, it can be implied that cognitive dissonance is inevitable. Albeit DUT respondents were satisfied with the smartphone experiences, results revealed that few difficulties were encountered. In line with this viewpoint, Armstrong and Kotler and Armstrong (2011: 182) reveal that almost all major purchases result in cognitive dissonance caused by post-purchase conflict. However, every purchase involves compromise. Hence, satisfaction occurred. However, no matter how well-made the smartphones are, there will always be room for creating a better experience and a phenomenon.

## **5.5 RECOMMENDATIONS**

The empirical contribution of this study is an eye-opener to all stakeholders. This study revealed that customer experience commences way before students purchase the phone and that it is a series of good experiences mixed with bad ones. Experiences and smartphones are not sold as individual elements, but rather as bundles. Therefore, marketers should embrace the set of all controllable marketing mix elements to create a phenomenon at all touch-points. In this sense, retailers must not sell quickly for a profit because it is such a small ambition. Accordingly, Gallo (2012: 3) writes that Apple wants to reach one's heart instead of one's wallet.

A particular characteristic of smart products, the smartphones is that the distinctive experiences generally lie in technologically innovative features that are hard or even impossible to observe from inspection of a product's surface attributes. In this regard, to help consumers identify and appreciate the product benefits, the promotional mix should enhance consumers to learn of products (Houssi *et al.* 2005: 554). Therefore, promotion should include various ways of communicating with customers of what the organisation has to offer. Moreover, it should communicate the experience structure shaping expectations and forming brand promise rather than just talking about its features (Lin 2011). In this aspect, every marketer should play the part to build a completed piece of the puzzle, that is, experience.

Section 4.2.6 of this study outlined possible changes that the smartphone developer should tailor towards university students. According to these findings, developers should consider increasing size of the key pads; prolong the battery life; increase screen size; thickness; weight; sound; waterproof; storage and processing. Smartphones are heavily used with the generation Y (youth). Therefore, products, specifically tailored to best fit expectations, stand as an input for developing phones.

Figure 4.4 has revealed that students preferred smartphones for entertainment rather than productivity. In contrast, Table 4.6 showed that 67.8% of respondents agreed and strongly agreed that smartphones aid in managing learning. Therefore, university fraternity should embrace the smartphone in the ways of learning. Banks have since adopted e-banking, yet bankers are not heavy smartphone users. Johnston, cited by North *et al.* (2014: 135), writes that one of the educational ironies of today is that students are absorbed in technology in all aspects of their lives, except for university.

## **5.6 LIMITATIONS**

This section discusses the limitations that became apparent during the progress of the research. The major drawback was that of limited financial resources as the principal researcher had limited resources to finance the study.

## **5.7 RECOMMENDATIONS FOR FURTHER RESEARCH**

Future research should consider including service providers for they play a major part in the series of customer experiences. Network providers affect the costs of using the smartphone, speed of downloads and other experiences. Encompassing service providers, therefore, would give the opportunity to arrive at more reliable and valid conclusions.

Future research should adopt a qualitative approach so that a deeper understanding of customer experience can be found. Experience deals with emotions. Therefore, a similar inquiry should be done using qualitative

methods. Customer experience involves unplanned encounters with representations of an organisation's products, services, or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews, and so forth. In this regard, a qualitative approach best suits the investigation.

This study examined customer experience with smartphones, using university students' perspectives. The study only focused on university students. However, it would be of interest to have investigated youth at large; unemployed, tertiary colleges and even high school students. Possibly, they would have completely different experiences. According to this viewpoint a wider panoramic view would be achieved and generalized to the youth at large.

Future research can also study experience using different stages of consumer behaviour. Empirical and literature review have discovered that customer experience is a wider topic of study. It includes expectations, perceptions, satisfaction and post-purchase dissonance. In regard to this view, future research can identify strata to investigate:

- Customer experience with a specific brand;
- Customer experience with network providers; and
- Customer experience with touch screens or alternatively with QWERTY key boards.

Conclusively, future research can be done in the next generation of smartphones since technology is ever changing.

## **5.8 CONCLUSION**

The empirical findings of this study have shown that customer experience marketing is here to stay and will progress as humanity evolves. The responsibility lies with marketing practitioners to consistently ensure that marketing strategies adapt to the changing technological advancements and preferences of segment markets. Technological advancement is inevitable, so are the human needs changing.

Scrutinizing the study findings, if a comparison can be made with durable products against the technology-based products, a more distinctively brief product lifecycle can be deduced from the smartphones. Therefore, for those consumers who desire upgrade will be attracted by the firms' next generation products which firms intend to earn profit from, for example, older model cell phones are rapidly replaced by newer models with augmented functions (Tseng and Lo, 2011).



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## APPENDIX A: LETTER OF INFORMATION AND CONSENT



**Title of the research study:** Customer experience with smartphones: a university student perspective  
**Principal Investigator/s / researcher:** (Musiyiwa Mupamhanga, BTech: Marketing)

**Co-investigator/s / supervisors:** (Tshepo, Peter Tlapana, MTech: Marketing)  
(Mandusha Maharaj, DTech: Marketing)

Dear Respondent

This study will research student experience with smartphones. The term, “smartphone” is a more marketing friendly tag that describes, a small hand-held device which serves as both a mobile computing and communication device. The purpose of this study is to investigate student experience with this new technological product, the smartphone by studying the gap between expectations and subsequent experiences.

Your honest co-operation in completing the questionnaire by giving answers to the best of your ability and knowing that there are no wrong and right answers in this study will spur the completion of the study. The questionnaire should not take you no longer than 15-20 minutes. The decision to take part in the survey remains your choice. The survey is highly confidential and of anonymity, need be you are free to withdraw from the survey at any time without prejudice or adverse consequences. There are no financial rewards given after participating in the survey.

The researcher has been granted permission by DUT Research Directorate to conduct the survey at the DUT campuses.  
Thank you deeply for your kind co-operation.

### Persons to Contact in the Event of Any Problems or Queries:

#### Researcher

Mr M. Mupamhanga  
Cell: 0793435010  
Email: [mmk.museka@gmail.com](mailto:mmk.museka@gmail.com)

#### DUT Research Ethics Administrator

IREC Administrator  
Lavisha Deonarian:  
Tel: 031 373 2900  
Email: [LavishaD@dut.ac.za](mailto:LavishaD@dut.ac.za)

#### Supervisors

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Complaints can be reported to the DVC: TIP, Prof F. Otieno on 031 373 2382 or [dvctip@dut.ac.za](mailto:dvctip@dut.ac.za)  
Institutional Research Ethics administrator: 031 373 2900

**APPENDIX B: APPLICATION FOR GATEKEEPER'S PERMISSION**



**Title of the research study:** Customer experience with smartphones: a university student perspective

**Principal Investigator/s / researcher:** (Musiyiwa Mupamhanga, MTech: Marketing)

**Co-investigator/s / supervisors:** (Tshepo, Peter Tlapana, MTech: Marketing)  
(Mandusha Maharaj, DTech: Marketing)

**Ethical approval number:**

**Student number:** 21142488

**Research site:** DUT six campuses

Dear Prof. Moyo

The researcher seeks to obtain permission to survey DUT students. No classroom, sports, library or any other school curriculum will be intercepted. The researcher will target loitering students and those willing to participate in the study. A letter of information and consent will be provided and explained to the participant. The data collection process will not involve access to personal information/student records. The researcher will not give any financial benefits to participants.

	<b>Signature</b>	<b>Date</b>
<b>Researcher:</b>	.....	.....
<b>Supervisor:</b>	.....	.....
<b>Head of Department:</b>	.....	.....

## APPENDIX C: QUESTIONNAIRE

**Questionnaire for the topic: Customer experience with smartphones: a university student perspective.**

Dear Respondent

My name is Musiyiwa Mupamhanga, a student at the Durban University of Technology in South Africa, pursuing a Master of Technology: Marketing degree. It's part of the requirements that I must do a research project. You have been chosen as my respondent for this research and it is purely academic. Therefore, being truthful in answering will be greatly appreciated.

**Please mark with an (X) in the relevant box**

### 1. Biographical Information

<b>1.1 Age in years</b>	<b>Boxes to place (X)</b>
18-25	
26-35	
36-45	
46 and above	

<b>1.2 Gender</b>	
Male	
Female	

### 2. Student Smartphone Ownership

<b>2.1 Do you use a smartphone as your primary mobile phone?</b>	
Yes	
No	

If answer to question 2.1 is (NO), then exit survey.

<b>2.2 How long have you used your smartphone?</b>	
1. Under 6 months	
2. 6 months but, less than 1 year	
3. 1 year but, less than 3 years	
4. 3 years and over	
5. Cannot recall	

<b>2.3 What is the brand of your smartphone?</b>	
1. Blackberry	
2. Samsung	
3. Nokia	
4. LG	
5. Other (Specify)	.....

<b>2.4 What phone did you use prior to owning a smartphone?</b>	
1.Nokia	
2. LG	
3. Motorola	
4. Alcatel	
5.Other (specify)	.....

<b>2.5 What prompted you to buy a smartphone? (You may mark more than one option).</b>	
1.Convenience	
2. Status	
3. Productivity	
4. Social networks	
5.Entertainment	

<b>2.6 What is your experience with using the smartphone? (You may mark more than one option).</b>	
1.Around the clock convenience	
2. Improved status	
3. Satisfied with using the smartphone	
4. Having bad experiences	
5.Nothing has changed	

### 3. Expectations and Perceptions

To what extent do you agree or disagree with the following statements. Compare the two sides, what you expected to experience before you owned a smartphone and the actual acquired experiences you are going through day in day out.

Before ownership  
during ownership  
(Expectations)  
(Perceptions)

After and  
(Acquired  
Perceptions)

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Experience comparison	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
					3.1 Easy to use					
					3.2 Sufficient storage capacity					
					3.3 Around the clock Convenience					
					3.4 Clear display of output					
					3.5 Sustained battery life					
					3.6 Compatible with my life style					
					3.7 Productivity enhancing					
					3.8 Worth the price					
					3.9 Reveals a fashion statement					
					3.10 Stay socially connected					
					3.11 Stay entertained					

#### 4. The smartphone and Student satisfaction levels

To what extent do you agree or disagree with satisfaction derived from the smartphone attributes?	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
4.1 It is easy to find my way using the main menu presentation.					
4.2 The screen size gives me a pleasant viewing experience.					
4.3 The smartphone applications enable me to manage learning.					
4.4 The storage capacity allows me to download information.					
4.5 The camera captures state of art images.					
4.6 The brand name is desirable.					
4.7 The smartphone satisfies my communication needs.					
4.8 I am emotionally attached to my smartphone.					
4.9 My smartphone has a great appearance.					
4.10 My smartphone has a compatible size and weight.					
4.11 High processor speed makes my smartphone enjoyable.					

#### 5. Smartphone stress

To what extent do you agree or disagree to the following statements?	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
5.1 Navigation of functions is difficult.					
5.2 The keys on the keyboards are too close.					
5.3 The screen size is very small.					
5.4 The battery dies quickly.					
5.5 Web pages are too slow to load.					
5.6 Difficult to navigate the web page.					
5.7 Websites not optimised for smartphones.					
5.8 Other features are useless on my smartphone.					
5.9 Storage capacity is too small.					
5.10 The phone is too thin it falls regularly.					
5.11 I feel cheated comparing the money I paid for against overall use experience.					

**6. Changes to improve overall experience**

<b>What can be rectified on your smartphone to improve the overall experience of owning and using a smartphone? (You may mark more than one option)</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>uncertain</b>	<b>Agree</b>	<b>Strongly Agree</b>
1. Increased size of key pads					
2. Prolonged battery life.					
3. Increased screen size.					
4. Increased thickness of the phone.					
5. Other (Specify)	.....				

**Thank you for your experiences shared**