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Attributes that influence Generation-Y consumers in their choice of Smartphone

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Abstract

Smartphone adoption is occurring at an exponential rate with a user base far exceeding that of traditional mobile phones. Previous literature has identified various points of usage across demographics such as age, gender, income and nationality, however little of this is with regards to Smartphone attributes. Furthermore, generational change has provided a gravitational shift in the application of marketing techniques, as Generation-Y is a generation unlike any other, where traditional techniques are more hit and miss than targeted. A deeper understanding as to how antecedent decision-making is performed via the influence of Smartphone attributes upon Generation-Y's choice of those phones is required. This research assists in the filling of these gaps by presenting findings in a holistic view of Generation-Y's Smartphone attribute preferences as well as perceptions among South African business users. This paper seeks to add insight by unpacking the needs of the Generation that will soon be the largest consumer group in history - Generation-Y. Self Explicated Conjoint Analysis provides insights into attribute ranking and level of influence of specific attributes. Factor analysis extracts the salient factors of influence by Generation-Y consumers when choosing a Smartphone. Further to this, managerial implications, future work and limitations of this study for theory and practice are presented.

Keywords

Smartphone, Generation-Y, Brand, Attribute, Self Explicated Conjoint Analysis.

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Raven Jainarain 

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1] Chapter 1: Research Topic

1.1.] Introduction

A Smartphone is a device similar to a cellular phone, however it differs by one major feature - the operating system - which allows third party applications to be run on it (Chow, Chen, Yeow & Wong 2012). The Smartphone is a result of the convergence of the mobile cellular phone and the Internet (Bojei, Hoo, 2010), and has both implicit and explicit attributes, namely brand, reliability, quality and technical features. The Smartphone is one of the most rapidly growing platforms of technological devices and is comparable to that of desktop computers (Oulasvirta, Wahlstrom & Ericsson, 2010), therefore the market and demand for Smartphones is growing as globalisation gains momentum. It was estimated that by the end of 2011, Smartphones would have overtaken the number of feature phones in terms of sales per unit (WDSGlobal, 2010). This is a young and exciting industry which is dynamic by its technological nature, but open to disruption as technological breakthroughs occur.

As the Smartphone industry kicked off from the cellular industry, it might have been expected that the leaders in the cellular industry would retain the lead in the spin-off Smartphone market, however this was not the case. There are a number of possible explanations for this but there is no single factor or reason that can determine demand toward Smartphones, as the determinants are complex (Chow *et al*., 2012). A company that does not identify the influential attributes of a product would find it impossible to last long and acquire any form of competitive advantage in this market (Jandaghi & Hashemi, 2010).

As the Smartphone industry approaches a commoditised state, competition is rife, thereby requiring large investments into the research and development of Smartphone products to attract and retain customers. The 21st century has pushed technology to open doors in new streams such as nano technology, which allows designers to pack more features into each square inch of device as they become smaller (Glasscock & Wogalter, 2006). Whilst these features individually may be useful, in collection they may prove to be overwhelming to the user, resulting in diminished product desire (Hamilton, Thompson & Rust, 2005). The significance of globalisation, coupled with technological advancement, has resulted in an increase in educated consumers with a wider influence via social networking. This makes satisfying consumer needs increasingly difficult, as what is hot one moment might not be the next, thanks to global consumer perception. Amongst the myriad of suppliers and commonplace

Smartphones, consumers often find comfort in the distinguishing factors of a particular brand to assist in the decision-making process of Smartphone choice during purchases.

Hence, even if one is the market leader or amongst the top three brands in this competitive industry, it is critical that product designers understand their consumers' base needs and the ongoing changes in the whole ecosystem, i.e.. that of generational change, where there is shift in the working population as Generation-Y consumers enter the workspace and product spending stream. This is important because as the audience changes, so too must products and marketing strategies to maintain brand loyalty and attraction amongst the new entrants during a time of market disruption, (Lam, Ahearne, Hu & Schillewaert, 2010) - in this case the proliferation of new Generation-Y consumers.

The aim of this paper is to identify the attributes that influence Generation-Y business consumers in the purchase process of Smartphone brands. Through this research, Smartphone designers, programmers and marketing strategists will be able to gain deeper insights into how Generation-Y business consumers perceive Smartphones and their suite of attributes in the purchase decision-making process, and hence be able to take action based on these findings.

1.2.] Research title

Attributes that influence Generation-Y consumers in their choice of Smartphone.

1.3.] Problem statement

There is a current void in the academic body of knowledge regarding what product attributes influence consumers to switch Smartphone brands amongst Generation-Y consumers. Glasscock and Wogalter (2006) noted that although there has been a recent trend by manufacturers to focus on specific demographic groups, e.g. children or adults, there is little research that addresses the feature preferences of users with respect to age. The mobile phone market is one of the most turbulent markets in existence today due to rife competition and change, hence there is a growing concern and need to understand the consumer buying decision process and to cast light on what attributes influence consumer choices between brands, (Karjaluoto, Karvonen, Kesti, Koivumaki, Manninen, Pakola, Ristola & Salo, 2005). As is understood by many

researchers, there is a gap regarding the understanding of factors affecting Smartphone demand amongst young adults (Chow *et al.*, 2012). One of these factors, product attributes, is explored in this paper.

1.4.] Research problem

1.4.1.] Background of problem

The Smartphone industry emerged out of the cellular industry and was subject to rapid adoption by consumers, as well as change in the technological landscape. Due to the technological landscape developing and advancing at a rapid rate, with both gradual and radical innovations, Smartphone designers are continually operating in an increasingly competitive environment (Elsdorfer & Hsu, 2011). This is due to this being one of the most turbulent and dynamic markets (Karjaluoto *et al.*, 2005). Companies that are not market leaders and which are technologically outperformed by competitors find it difficult to catch up (Elsdorfer & Hsu, 2011). They further find it difficult to lead the market into a switching mentality over to their products, resulting in millions being wasted in research and development. This has an associated bankruptcy risk in such a volatile market. This risk is more prevalent amongst the fickle Generation-Y consumer, for whom instant gratification is a requirement (Hyllegard, Yan, Ogle and Attmann, 2010).

Hughes (2008) has found that Generation-Y consumer and purchase behaviour differs greatly in comparison to other generations, hence traditional marketing techniques are not readily accepted by, or effective on, this generation. It is thus imperative that product designers understand the customers' needs and market perceptions to ensure that the implicit and explicit product attributes speak to some aspect of being related to customers' lives, ease of use, the 'feel good' factor, the 'cool' factor, and desirability (Shirgaonkar, 2004). This is important as product design is about understanding human psychology as well as technical development. The successful deployment and adoption of a competitor product can only be performed by conveying the product attributes to the customer in a manner in which they identify with them (Shirgaonkar, 2004). As stated by Tomaseti, Sicilia and Ruiz (2003), companies all over the world introduced approximately 31,785 new food, beverage, health and beauty aids, household and pet products during 2002. However it is estimated that more than 80% of those products failed, wasting a great deal of money. Market success depends on a consumer's response and perception to products, which is motivated by the their evaluation of the

new products. A way to reduce failure rates is to identify the factors of influence during product evaluation.

The Smartphone industry is an industry where products frequently look, feel and function in similar ways which often hardly distinguishable, apart from their brand and other latent features. There are a number of product attributes that entice a customer to engage in purchase behaviour, however the problem is that in the fast paced technology industry, the time taken to switch a customer to a competing brand is often marred by other competitors' releases, which either offer the same - if not more – attributes, or attract the consumer via attributes that they want. Glasscock and Wogalter (2006) stated that although manufacturers release so-called 'useful features' that makes application sense, there are no citations that support these claims, and without actual supporting data, however reasonable these claims may seem, they may be incorrect. Products need to have the right attributes based on research which are driven by consumer need and communicated through visual cues, triggers, and associations the first time round (Shirgaonkar, 2004).

The exponential growth that this industry has seen has been further marked with the rise and fall of Smartphone designers such as Palm, Blackberry, and Nokia. This could be the result of a number of factors, ranging from over supply or lack of product attributes, to lack of innovation. Generational change is another issue that has played a role in recent failures, where the changing generational landscape has upset regular marketing strategies, product strategies and understanding of how to switch and/or retain a customer in this industry (Reisenwitz & Iyer, 2009).

1.4.2.] Benefits of this research

The results of this paper will ideally be informative to product designers in the business world. The research aims to cast clarity and close the gap in the understanding of what attributes influence the purchase behaviour of Generation-Y Smartphone consumers.

Table 1: Aspects Covered

Core aspects covered include:
The influence of technical product attributes and their ranking
The influence of brand and perception on the purchase
The attributes that Generation-Y consumers value

The findings of the study will benefit product designers and strategists in understanding how Generation-Y consumers perceive product releases, what they look for, what they identify with, and what attributes in particular influence them in the decision-making process to purchase a particular brand. This can be useful from a strategy point of view and minimise expense in research and development by focusing on the 'must have' features versus the features that are included for the sake of it.

1.4.3.] Business rationale

It is commonly understood in the Smartphone industry that the technology industry is extremely competitive. Most companies compete on competence, and in most instances this can be easily replicated. If one fails to innovate and meet customer need the result is often a loss of market share or customer commitment. This is testament to product development in the Smartphone phone market, where once titan Nokia, is suffering as its market has been devoured by Apple's iPhone, (Ewing 2012). Nokia's credit rating fell to junk status due to its inability to keep pace with Google and Apple. Experts speculate that Nokia may be completely out of the picture if restructuring and strategic refocusing of the business does not occur (Virki, 2012). This is proof of the power of innovation and the dangers of the inability of a company to deliver product requirements to consumers that are actually wanted and needed.

Changes in the market have seen another titan, Blackberry, follow suit, where sales and perception has dropped to the extent that only one in five current Blackberry owners plan to stay with the brand for their next Smartphone purchase (Mochiko, 2011). iPhone users are most likely to buy their next handset as a repeat purchase, with percentages sitting above 88% in the USA and Europe (Ben-Aaron, 2011). It is a very real possibility that Blackberry is close to bankruptcy, because as consumer commitment and brand loyalty falls, so too does the share price (McLeod, 2012). This shows that no one is safe in such a volatile market, hence success is only possible for companies if they know how to approach satisfying client needs and keep abreast of technological advances.

Many companies have been blindsided by the sudden shift in focus from hardware to software. Furthermore, the battles going on in the Smartphone industry are like none other experienced - even in the comparable PC industry (McLeod, 2010). An important factor to succeed in this industry is keeping pace with change. As barriers to entry

continue to rise and become more complex, companies that cannot attract developers of applications for their platforms will struggle to keep relevant (McLeod, 2010).

Smartphone market leaders are moving into the lower end markets to offer services to the entire spectrum of priced users. This is a further threat to existing providers that have not managed to engage the market as the leaders have (McLeod, 2012). For this reason, knowing what makes consumers switch has never been more important.

1.4.4.] Scope

The scope of the research was defined by the following requirements:

Table 2: Respondent Research Requirements

Respondent Research Requirements
Generation-Y respondents:
- Are working class professionals
- Are between the ages of 18 and 34
- Own a Smartphone currently

Although there are a number of determinants that influence switching behaviour and product demand, e.g. product features, brand, price, and social influences (Chow *et al.*, 2012), this research focused on understanding the various product attributes that influence a user to purchase a brand, i.e. technological attributes and that of the brand itself.

1.4.5.] Objectives

The following objectives were investigated in this research paper:

Table 3: Research Objectives

Research Objectives
To understand the priority of explicit Smartphone attributes that influence Generation-Y consumers choosing a Smartphone
To understand the level of influence that implicit attributes has on the decision-making process in choosing a Smartphone
To understand what latent attributes of a new feature Generation-Y consumers look for when deciding to purchase a Smartphone, e.g. quality, response, best in market, etc.
To understand the impact that innovativeness has on influencing a user to choose a particular brand when purchasing a Smartphone

1.4.6.] Assumptions

The following assumptions were made and were implicitly accepted and included in the research:

Table 4: Research Assumptions

Research Assumptions
Users are technologically competent in the use of the Smartphone
Users are responding to questions posed, under the assumption that price is not a factor in their decision-making process
Users are responding to questions posed, under the assumption that social influence is not a factor in the decision-making process, i.e. they are making a decision based on their free will

1.4.7.] Limitations

Due to the nature of this study and time constraints, various limitations were identified. These include:

Table 5: Research Limitations

Research Limitations
Due to the time frame for the delivery of the thesis, there was a limitation on the breadth of research possible, as well as the sample size that could be acquired and analysed, hence the scope of the study took place utilising banking professionals as the researcher had access to this sample for response to questionnaires
Due to the research being questionnaire based, there was the risk that the questions could be misunderstood and hence incorrect responses collected
In the development of the research questionnaire, the researcher was aware of personal bias and ensured that questions were not directives and allowed the respondents to respond in a manner that was not influenced by the researcher

1.4.8.] Delimitations

Due to the above listed limitations, the researcher mitigated limitations via the following mechanisms:

Table 6: Research Delimitations

Research Delimitations
The entire sample frame was utilised. The researcher printed each questionnaire and administered the questionnaire to each respondent to achieve a maximum response rate
The researcher was available at the point where respondents were answering the questionnaire, hence ambiguous questions could be explained to the respondents
The questionnaire was peer reviewed for influence before being submitted to the sample frame for response

2] Chapter 2: Literature Review

2.1.] Introduction

The literature review attempts to build a picture of the intended research by providing an overview of relevant previous research in the area through a critical evaluation of the supporting research and arguments that contextualise and justify the need for the intended research (Saunders & Lewis, 2012).

Product designers have to satisfy consumer needs whilst implicitly attempting to assist in the creation or maintenance of a brand, which is a delicate task. This encompasses understanding consumers, their habits, traits, needs and processes. When a purchase is made by a consumer it is seldom that the consumer is purchasing just the product – they are purchasing both the tangible and intangible aspects, which are both product related and non-product related (Roy, 2011).

Significant investments are utilised by corporates around the world to attract consumers, however one continuously sees companies losing market share or failing completely due to competition from newer brands and companies. These companies are doing something wrong in their research and development process, as product sales target failures indicate a mismatch between expectations and delivery. What this research hopes to uncover is whether when expectations are met, there are then other unsaid intangible latent factors that need to be packaged as well in influencing the Generation-Y customers to purchase a Smartphone.

The Hedonic price method suggests that a product is a bundle of characteristics/attributes and it is these attributes that consumers choose rather than just the product itself (Mustilli & Izzo, 2008). This brings to light the fact that there is significant importance beyond the basic functionality of a product in determining how successful a product would be against a competitor. As stated, these attributes can be split into the tangible, i.e. actual functionality, new features, appearance, feel, weight, and durability; and the intangible, i.e. emotional experience, peace of mind, quality perception, innovative nature of the creators, ‘cool’ factor, brand, service, maintenance, and reliability, amongst others.

An understanding of which attributes - implicit or explicit or both - of the new product or upgrade that consumers are waiting for, or seeking, is required to successfully satisfy

consumer need and drive desire for the purchase of the product. Hence the focus on Generation-Y, as this is the generation on whom traditional marketing techniques seem to fail.

This chapter has revealed the profile of the Generation-Y consumer, detailing their likes, dislikes and common behaviours in the decision-making process of purchasing. Furthermore, an understanding of the Smartphone attributes that drive demand has been established, with a focus on product features, breakthrough innovations and brand.

Generation-Y

2.2.] The Generation-Y cohort

Understanding the different generations that make up society has applications in many aspects of life and industry. This spans the design of marketing, business and product strategies, understanding consumer behaviour in terms of purchasing, switching, feature fatigue, trends and brand loyalty, etc.

Generational theory states that the era in which an individual is born affects the way they view the world. This is a mix of internal and external factors that shape the way in which individuals interact with their environment. Generations last about 20 years from date of birth of an individual to the period in which they may have their own offspring (Codrington, 2008), at which point a new generation emerges.

Current generations in society are the GI or Veteran, Baby Boomers, Generation-X, Generation-Y and the latest emergent being the Homeland Generation or Generation-Z (Codrington, 2008). This paper focused on Generation-Y, as this is the generation that is soon to occupy the majority in terms of population percentage in the working world, and who will become the consumers with the majority buying power (Hughes, 2008). They are furthermore the largest generation in comparison to the Baby Boomers and Generation-X, numbering more than three times that of Generation-X (Sanderson, 2010). Generation-Y becoming the majority stakeholder in the market means that marketing and product design strategies will have to be refocused for this generation, however an understanding of the generation and the way they perceive and operate in society is first required.

2.2.1.] Profiling Generation-Y

Generation-Y defines individuals born between and including the years in the range 1978 – 1994 (Cobanoglu, Nusair & Parsa, 2010), thus placing Generation-Y individuals between 18 and 34 years of age during the time of this study. These were individuals born during a period of growth and relative economic stability. Environmental circumstances play a vital role in the makeup of the value system of a generation, due to a person developing meaning based on personal experiences within societal contexts, which is different from other generations (Codrington, 2008) as their experiences are also diverse.

Generation-Y - commonly known as Net Generation, Nexters, and Millennial's - is a generation of technologically savvy individuals (Cobanoglu, Nusair & Parsa, 2010). They have been born into a world of instant satisfaction provided by their parents, products and services, where needs are serviced spontaneously and where information is available at their fingertips (Constantine, 2010). Their world is characterised by fast-paced change, abundance, and a wireless society where global boundaries have been blurred (Hwa, Lee & Cheng, 2011). Technology is not intimidating or overwhelming to them, as they have grown up in an environment where more is better and multi-tasking is second nature.

Generation-Y individuals have been brought up in a society that has praised them as the generation that will change the world, to whom anything is possible and who deserve success, and hence are classified as individuals who are confident, affluent, self-sufficient, materialistic, spontaneous, and requiring instantaneity, with particular emphasis on instant gratification (Hyllegard *et al.*, 2011).

This is a generation that questions the norms and does not accept face value. They are well informed and crowd source amongst peers to reach difficult decisions (Daniels, 2007). Due to their interconnectedness (Hughes, 2008) this is also a generation that commands power in terms of brand perception, as they are adept in posting bad reviews and crowd sourcing common consensus when not satisfied with a purchase or service, which can be extremely damaging to product sales.

Thus Generation-Y can be characterised by the following traits:

Table 7: Generation-Y Characteristics

Generation-Y Characteristics
Information and technology-dependent
Interconnected with their world
Dependent on social networking (Cabral, 2011)
Obsessed with image and image driven (Cheng, Hwa & Lee, 2011)

2.2.2.] Generation-Y population

Generation-Y is the largest generation since the advent of generational theory. Across the globe, by the year 2015 Generation-Y will represent more than 33% of the working population (Fernandez, 2009), and this number will grow in the following years. In the United States alone, in 2008 Generation-Y represented roughly $200 billion per year in spending, and influenced up to $400 billion in expenditure. It can be seen by these statistics that there is a great deal of money residing with this cohort.

Research has shown that the Generation-Y consumer and purchase behaviour differs greatly in comparison to other generations, which is why traditional marketing techniques are not readily accepted by, or effective on, this generation (Hughes, 2008). Marketers need to develop new strategies to reach this elusive population. Understanding them, however, is difficult, as they are a group that splits their time amongst a multitude of activities, which makes targeting their time and mindset tricky (Hughes, 2008). Companies cannot afford not to understand this generation, as doing so will result in missed opportunities, research and development wastage and product launch failures.

Understanding this population is daunting as there are many facets that one can investigate, however this paper has focused on the various ways that Generation-Y is influenced when choosing a product, and how those influences are applied when choosing a Smartphone which has other contributing attributes that influence choice.

2.2.3.] Generation-Y consumer behaviour

<u>Generation-Y purchase behaviour</u>

Generation-Y individuals are fickle consumers (Daniels, 2007). They are highly opinionated due to being well versed in their environment and having information readily available. Technology is used proficiently to assist in the comparison of

products (Hughes, 2008), resulting in a well-informed consumer or "prosumer", (Sanderson, 2010). This allows them to predict future trends, understand when something is going out of fashion or to debate aspects they do not agree with. This confidence is mirrored in the product world where they understand what they want and which products can satisfy their needs.

They tend to lean toward brands that are known to be customer centric, e.g. those that take the time to know them as a consumer, which do not offer products inundated with features for the sake of competing and to seem superior to alternatives (Daniels, 2007). They are also known to have values that are aligned to social and environmental causes as they are said to be more socially conscious individuals (Hyllegard *et al.*, 2011). Hence other softer factors to be cognisant of that may influence purchases include: education, poverty, health and disease, as research has shown that 89% of Generation-Y individuals would likely switch brands if price and quality were equal to those of a brand that is associated with a good cause (Hyllegard *et al.*, 2011).

This is not a risk adverse generation (Reisenwitz & Iyer, 2009) – they are not afraid to try out a new product that is out of their usual brand choice and they spend money as fast as they make it. Self-fulfillment is prevalent amongst the majority as they opt to start families later in life and hence can enjoy spending on themselves.

One can assume that companies that can understand these consumers and that can service their need for immediacy, which is a core requirement of this generation, (Hyllegard *et al.*, 2011) will do well in being top of their minds.

Generation-Y decision-making process

The decision-making process is one of weighing up facts, feelings, stimuli and knowledge to assist in taking specific actions based on the task. This process is often complex and difficult to understand, however understanding it is key to leading customers to a product through their reasoning. Generation-Y has tremendous spending power and spends freely due to their economic good fortune (Haytko, Noble and Philips, 2008; Hyllegard *et al.*, 2011), and is also beginning to become aware of brands at an earlier age due to globalisation, leading to a customer who is able, aware and well versed with brands.

Generation-Y individuals are influenced by many factors, one of which is individuality, and those in search of identity and acceptance are conscious of how others perceive them, which explains their obsession with brands. It has been noted that the image aspect of the brand plays an important part in their decision-making process. A stylish design is important as it helps them express individuality, hence they seek brands that show off success, which supports the view that Generation-Y individuals are hedonistic and materialistic (Fernandez, 2009). The obsession with brands cannot be extended to that of brand loyalty, however. According to Hwa, Lee and Cheng (2011), Generation-Y consumers are individuals amongst whom it is difficult to cultivate loyalty, and they are disloyal to brands with low repeat purchases. Hence brand loyalty is an attribute that cannot be said to have an effect on the choice of Smartphones they choose.

It has been found that Generation-Y consumers are individuals who desire to be connected to peers, retailers and the Internet (Williams & Page, 2010). They are seldom individuals who do not know about a product and rely heavily on social influence in the decision-making process when purchasing a good or service – they are more socially and economically conscious than other consumers (Hyllegard *et al.*, 2011). Therefore peer and general opinions are a definite influencer in the purchase of a new product, which in most cases are facilitated via social media, crowd consensus, hype, and buy-in.

There is no clear cut decision-making process, however some considerations to keep in mind are that Generation-Y individuals are well researched, seek approval from peers, succumb to peer pressure, and want to portray a successful cool image, however they are not loyal to any brand and want to be individuals while also following what is hot in trends to keep up perceptions. Many know what a product has versus not, as well as its general popularity, even before it hits the shelves. Hence transparency and openness regarding shortcomings would be favourable as they dislike dishonesty. It would seem that products that have created the necessary hype or cool factor would have buy-in from the masses and would therefore have an edge on influence. A good example of this done well is the Apple iPhone 4, which was released with antenna issues. Apple admitted the problem and assisted by offering comfort to consumers that a fix would be released in due time. By admitting fault and taking ownership after the sale, this created trust.

Generation-Y and brands

Companies must be aware that the world that Generation-Y has grown up in is vastly different from that of the preceding generations. They are image-driven individuals who strive to make a personal statement via their individuality, who are influenced primarily by their peers and the media (Hwa, Lee & Cheng, 2011). It is clear that Generation-Y consumers are individuals who know what they want and do not want to waste time on aspects that not relevant to their needs.

Generation-Y consumers are often seen as early adopters of technology and frequent users of mobile services, who demand connectivity, availability, brand name, innovation, and quality from their mobile provider (Hwa *et al.*, 2011). Innovation is at the forefront of their agendas in order to keep current and in touch with society, and is a reflection of a progressive company that adds to the cool factor of the brand. As stated aptly, innovation is required to support consumer perception of the brand (Milenkova, 2012). It is known that when a brand name begins to innovate or continually innovates, this adds to the strength of the brand and the overall attractiveness of the company and its products. It is important that the innovations be meaningful to the consumer however, so as to alter their behaviour and loyalties. The highest level of impact is innovation, which repeatedly changes the category of what consumers buy (Aaker, 2007).

It is apparent that innovation and its association with the brand is an important factor in a company's success, however the question is, is this attribute influential in the purchase criteria of the Generation-Y consumer, and if so, to what degree does it influence their purchase of a product?

Generation-Y is comprised of consumers who are brand conscious and aware, however they are not brand loyal, so what is hot one moment can be out of style the next (Sanderson, 2010). Roy (2011) stated that there are eight types of brand loyal customers: stable loyals, passionate loyals, hot potentials, hopefuls, vulnerables, functional loyals, cold potentials, and disloyal. Reisenwitz and Iyer (2009) suggested that Generation-Y is less inclined to brand loyalty, so it would make sense to assume that the Generation-Y consumer could be either hopeful or vulnerable – where the general trait is that the consumer recognises the brand and appreciates it, but is attracted to it at varying degrees. Furthermore, it is noted that Generation-Y consumers - due to being less brand loyal and not risk adverse - are expected to exhibit greater

switching behaviour (Reisenwitz & Iyer, 2009), which leads to the thought that there is significant room to develop products to attract the consumer by focusing on attributes that speak directly to such a fickle purchaser, and not inundate them with attributes that do not matter.

However Ruane (2011) argued that brand loyalty does exist in Generation-Y consumers, although it was found that this only extends to sport brands and football boots, due to individuals being used to a level of performance and being afraid that performance would be altered if they changed brands.

Branding, however, is an influence on the Generation-Y consumer in the decision-making process. The need to purchase a branded product is the need to fit in with peers and fulfill a need to belong (Hwa *et al.*, 2011). Generation-Y is willing to pay more for brands that represent quality, due to being socially and environmentally brand conscious (Quintal, Phau & Sims, 2009).

The objective of branding is to generate choice, simplify decision-making, offer reliability and quality assurance, assist in self-expression (which is something that is important to the expressive Generation-Y consumer), and to offer pleasure. However, as much as brand does influence the Generation-Y consumer, they are on the whole disloyal, with low repeat purchase behaviour, having being brought up in a world where branding and globalisation is a way of life (Hwa *et al.*, 2011). Therefore it can be understood that although brand is important in the decision-making process, it is not something that retains the consumer in their future decisions when purchasing a new product. Hence with Generation-Y, branding must be seen in a new light, i.e. an attribute to influence and attract, rather than an attribute to retain and drive loyalty, as Generation-Y consumers do not conform to stereotyping and are addicted to change and constant activity (Daniels, 2007).

Research shows that Generation-Y consumers are not repeat purchasers due to loyalty, but they are aware of the trendy brands and the notion of fit for function. If those suit their desired profile and image (Williams & Page, 2010), they are likely to be attracted to it, either the first time round or repeatedly. This is predominantly found in the clothing fashion space. It would be of use to understand if this occurs in the Smartphone industry, as a Smartphone is an accessory to one's image.

Generation-Y and technology

These are individuals who were born in the midst of the technological boom, where innovation exceeds adoption rate, and disruption trumps prediction. Change is constant and technology has been integrated and woven into their societal function. The dependence on technology is a key aspect of their lives.

The advent of social networking such as Google+, Facebook, MySpace, SecondLife, YouTube, Twitter, and LinkedIn, amongst others, has led to a dependency on interconnectedness (Hughes, 2008) amongst Generation-Y individuals. Consequently, the common idea that has surfaced is that Generation-Y individuals have an innate need for information availability, accessibility, instantaneity, and connectedness; they are unknowingly addicted to social networking and hence feel the need to be connected to peers (Cabral, 2011).

The Internet is seen as a way of life, where questions are answered by the popular phrase, “Just Google it”. This is the information store that Generation-Y look to for clarity, therefore it is important to be accessible when and where required. Technology should be simple and effective - just a keystroke away - hence the popularity of widgets in Smartphones which bring information to the user in a summary view.

Generation-Y, being focused on their individuality, expects that technology products should align to their lifestyles to fulfill their desire to be unique. Hence they believe that products should be customisable to suit their style. This allows them to showcase their individuality and still be part of the group (Hughes, 2008). Generation-Y is known as being tech savvy and of being able to seamlessly integrate with new releases or leaps in technology. They are not fearful of technological changes and religiously follow upcoming changes. Hence product releases that change the *status quo* are not frowned upon, but are rather welcomed - where change and variability is seen as exciting and interesting.

Generation-Y and response to marketing strategies

Marketing strategies, as with any strategy, are formulated with a particular end purpose and a particular target or targets in mind. During the time of this study, marketers and product designers had six targets to strategise over, those being the generations of: Pre Depression, Depression, Baby Boomers, Generation, X, Generation Y, and

Generation Z. The effect of factoring the characteristics and behaviours of generations in the planning and design of a product, is better relationship building, trust and closing business (Williams & Page, 2010), thereby striving towards successful implementation of strategies.

Due to the vast and drastic difference in the value system of Generation-Y in comparison to their predecessors, it is necessary that marketers fully understand their thought processes, attitudes, values and way of life. A hard sell approach will not work with Generation-Y, as one must endeavour to understand them (Sanderson, 2010). Hence understanding Generation-Y in addition to understanding Smartphone features is crucial in determining the attributes that influence their purchase decisions in Smartphones.

The Smartphone

2.3.] Smartphone

Sanne (2009) stated that a Smartphone is a combination of a feature cellular phone and a PDA. The common way to distinguish a Smartphone from a cellular phone is to ascertain whether the phone has a mobile operating system, as not all cellular phones employ an operating system, while a Smartphone does. Furthermore, Smartphones allow third party applications to be run on them (Kirk, 2011).

The Smartphone is a powerful device which is endowed with capabilities to run innumerable internet-based services such as e-mail, geo location, streaming video, and social networking, all whilst providing a great user experience (Kenny & Pon, 2011). It is a device that has more features in comparison to the basic cellular phone and PDA (Chow *et al.*, 2012).

2.3.1.] How the Smartphone evolved

The introduction of the Internet and that of the operating system on the traditional cellular phone evolved the basic telecommunication service offered into a device with multi-tier service offerings. The turning point was the introduction of mobile operating systems such as Android, Apple iOs, Nokia Symbian/Meego, Blackberry's Research in Motion, and Windows Mobile, amongst others, that allowed these devices to run third party applications.

The use of a mobile operating system allowed the mobile device to provide services such as PDA, navigation, high-end gaming, social networking, Internet, enhanced user interaction via touch capabilities, high-end photography and editing, office based functionality such as Word, Excel and PowerPoint, near frequency communication, cloud storage and access, and high-end computing capabilities (Pike, 2011).

Breakthrough innovations and technologies such as touch capabilities and nano technology has allowed Smartphones to offer PC services at a fraction of the size with similar capabilities (Pike, 2011). Due to the fierce competition in this industry, producers are forced to innovate, hence the evolution of the Smartphone is an ongoing race to achieve and maintain market share.

2.3.2.] How the Smartphone fits into society

Undoubtedly Smartphones have entered and become embedded into society. As service offerings on these devices grow, so too does our dependence upon them. Smartphones have affected the consumer from a social standpoint, where ecosystems and subcultures are developed based on the social networking backbone of the Smartphone, thereby demonstrating the consumers' ability to modify and repurpose technology for their own use (Rauch, 2005). This finding is replicated across the various generations, whereby Smartphones are being utilised in ways to suit individual lifestyles and personas (Pike, 2011). Thus the manner in which Smartphones fit into society is subjective, based upon the particular generation. An example of this is where Generation-Y has also been dubbed the "Thumb-Generation", due to their excessive use of Smartphones' SMS capabilities.

2.3.3.] Users of the Smartphone

Smartphone use can span that of any individual who previously owned or could own a mobile communication device, as the Smartphone is a spin-off from the cellular industry. The users of Smartphones are on the increase, as stated by WDSGlobal (2010). By the end of 2011, Smartphones had taken over the number of feature phones in terms of sales per unit. Glasscock and Wogalter (2006) mentioned that there is an increased focus by mobile producers to market Smartphones to adults and children, which suggests that there are increasingly diversified user groups in terms of age of these devices.

The Smartphone user group has expanded. As Karjaluoto *et al.* (2005) stated, communication is not the only need that mobile phones satisfy, hence the expanse of possible users is growing as Smartphones begin to satisfy new areas for service across differing age groups. Smartphone sales are increasing by almost 100% year on year and it is speculated that total global sales will surpass that of PCs by 2012 (Kenny & Pon, 2011). Hence an understanding of the market and its inhabitants, particularly that of the Generation-Y cohort and the factors that influence their choices, is required.

2.3.4.] Uses of the Smartphone

Smartphone use is enabled by feature offering. Smartphones are predominantly used as a means of communication, i.e. through e-mail, sms, call, and social networking. However with the advent of mobile apps and the progress in the area of nano technology, Smartphones' hardware capabilities are seemingly infinite as more hardware is added and as the hardware is exploited for diverse use via app development. This is fuelled by manufacturers of operating systems collaborating with outside parties to build applications on their systems as a means to secure adoption of their operating system by the market (Kirk, 2011). This thus drives need and further embeds the use of Smartphones into society.

The uses of Smartphones are on the rise as they become more capable with the advent of new technologies that make activities quicker and more convenient (Pike, 2011). However as the use of Smartphones increases and as feature offerings become more diversified, it is important to be aware of how these offerings relate to user needs, especially those of Generation – Y.

2.4.] Smartphone landscape

2.4.1.] Current operating system

As per Kenny and Pon (2011), the key firms that compete by operating system are: Nokia with Symbian/Meego, Apple with iOS, Google with Android, Research In Motion with Blackberry 4, Palm/HP with WebOS, and Microsoft with Windows Mobile. The operating system is an important aspect of the Smartphone, which is responsible for the exploitation of the full extent of the hardware capabilities and for providing a platform for third party applications to be run (Pike, 2011). A sturdy operating system drives reliability and user experience by ensuring minimal errors and an easy intuitive

recovery when errors do occur. The two operating systems with significant brand presence are Android and Apple iOs.

2.4.2.] Current device providers

There are a number of new entrants into the Smartphone industry, however the mainstream players with significant market share, in no particular order, are: Google, Apple, Nokia, Blackberry, Sony Ericsson, Samsung, HTC, Palm, Microsoft, Siemens, and Motorola. Providers have particular strategies regarding product releases. As this is a cyclical business with new releases occurring every eight months, competition amongst providers is rife.

In most cases, device providers are the creators of their own operating system platforms, however some providers do make use of operating systems that are developed and are available under an open architecture framework by utilising the operating system under an issued license (Kenny & Pon, 2011). This allows these providers to enjoy the latest operating system innovations and to be able to focus on product innovation. The current device providers with significant brand presence are Apple and Samsung.

2.4.3.] Breakthrough innovations

Key changes in product design are often enhancements to existing features, however the odd breakthrough innovation does occur. There have been a few breakthrough innovations in recent years in the Smartphone industry, the first being the touch screen which was subsequently mastered by Apple as the most accurate and responsive touch screen, the voice controlled personal assistant such as Apple's Siri, Apple's enhanced retina display, and Nokia's 42 megapixel High Definition camera offering. Breakthrough innovations drive product demand by creating the cool solution.

2.5.] Smartphone demand and study focus

2.5.1.] Smartphone demand

One of the most important aspects when launching a new product involves identifying features of the product that will allow it to garner the largest market share (Floyd & Lydia, 2012). In the Smartphone industry this is a delicate balancing act, as too many features lead to feature fatigue, while too little lead to a user needs mismatch.

The Smartphone industry is very much a technology push driven industry, where products are often created ahead of the recognition of existing recognised consumer needs. Thus mobile phone development is based on consumers' possible future needs. The organisations that best predict the technologies and features of the future will be the leaders in the discipline (Karjaluoto *et al.*, 2005). An understanding of future consumer needs is critical in matching demand with supply, and due to Generation-Y being exceptionally different to any other generation, this is extremely important.

As stated above, communication is not the only need that mobile phones satisfy, which is why this research is based on the future market makeup - that being Generation-Y and their extent of needs. As Generation-Y proliferates into a greater consumer space and takes pole position in consumerism, and as the Smartphone becomes the *de facto* in mobile telecommunication, a match between Smartphone features and consumer need is required to ensure sales success and some aspect of customer fulfillment.

2.5.2.] The focus of this study

Any product can be modelled as an entity with a set of attributes (Wan, 2011). A Smartphone may have the following attributes: explicit or implicit. Chow *et al.* (2012), who have investigated the factors affecting the demand of the Smartphone amongst young adults, suggested that there are four factors that affect the demand of a Smartphone, namely, product features or attributes, brand name, price, and social influences. Chow *et al*. (2012) also noted that consumers select products based on attributes that create benefits that engender specific outcomes that are supportive of personal values, which is why the relation of Smartphone attributes to Generation-Y is a relevant point of focus.

Although the factors affecting demand amongst young adults have been understood, the actual Smartphone attributes which relate to product features that influence Generation-Y consumers' choices are yet to be. In relation to this topic of study, 'Attributes that influence Generation-Y consumers in their choice of Smartphone', the research focuses on two factors of demand, namely the product features or attributes, and brand, which address the explicit and implicit aspects of product attributes. The research uncovers the extent of Smartphone attributes and matches those to Generation-Y consumer traits, and attempts to uncover which have a significant impact on influencing their decisions.

Tan, Yeh, Chen, Lin and Kuo (2011) stated that real life decision-making is often a multiple criteria decision-making problem; humans make poor choices if the decision is complex and involves many attributes. Therefore, especially with Smartphones which have a large standard set of attributes, offering the right attributes would aid in the consumer purchase decision-making process when considering a multitude of product choices.

2.6.] Attributes of a Smartphone

Attributes of a product span that of explicit attributes, such as the touch and feel features that one can tangibly utilise, to the implicit attributes, such as user experience and brand. Ruiz and Tomaseti (2004) packaged implicit and explicit attributes within three categories, those being characteristics, benefits and image, where characteristics are the physical properties, benefits relates to the outcome, and image to which the users identify themselves with a group or how they represent their self-image. A consumer's attraction to a product is driven by any combination of explicit and implicit attributes.

The introduction of new attributes is a common method for developing new products, however the impact of a new feature depends on four factors: characteristics of the feature, characteristics of the product to which the features are added, characteristics of the buying task, and other factors such as the marketing strategy or the competitive and social environment (Ruiz & Tomaseti, 2004). As discussed in the previous chapter, the social environment regarding Generation-Y consumers is an important and yet to be understood area. This generation has had an impact upon marketing strategies and product design, hence as stated by Ruiz and Tomaseti (2004), the impact of new attributes are dependent upon the understanding of Generation-Y.

The different Smartphone brands fall into a number of categories, and due to these categories already having been established, consumers have developed judgements about the different brands and what attributes they value as being able to deliver the desired benefits. Hence in order to create a product to change preferences, one needs to understand the effectiveness of different types of product attributes (Wilkie, Johnson & White, 2011). Research has shown that depending on the situation, consumers view different attribute quantities, and while it is clear that attribute content matters, attribute numerosity does not (Berger & Sela, 2009). This further clarifies the need for this research into the attributes that influence Generation-Y consumers in their choice of

Smartphones, and to identify the meaningful attributes of influence, i.e. the attributes and attribute content to this generation.

2.6.1.] Attribute levels

Decades of research have shown that attribute levels and factors that determine how much weight is assigned to them can have an important influence on consumer product evaluation and choice (Berger & Sela, 2009). Depending on user preference based on segment, e.g. that of Generation-Y, varying degrees of attribute level and combinations can influence purchase decisions differently.

Attribute levels are levels within an attribute or a category of attribute, for example the resolution of the Smartphone screen, which could have attribute levels of high, medium or low resolution. Another example of attribute levels within the context of category may be that of speed, where one could cluster processor speed, a lot of Random Access Memory (RAM), and Responsive Application Control, to represent attribute levels within the attribute ‘device speed’.

As stated by Sela and Berger (2009), attribute content matters as an influence on choice, therefore when deciding attribute content, attribute levels must be taken into account.

2.6.2.] Feature fatigue

Feature overload or fatigue is a phenomenon that occurs when a product offers a multitude of features, that upon purchase consumers subsequently do not use (Zhang & Padmanabhan, 2011). This occurs when a device manufacturer attempts to bundle all possible features within a single product, with the aim of satisfying all user requirements across a number of segments.

The lack of usability and complexity involved with learning how to use the product often results in consumer dissatisfaction and a label of being difficult to use being attached to the brand, which can have severe repercussions for future product purchases. Zhang and Padmanabhan (2011) noted that many companies are aware of this issue and attempt to capitalise off this phenomenon. An example of this is Apple, which provides simplistic Smartphones with features that perform the basic requirements of its

consumers. Consequently, Apple is also the current market leader in terms of Smartphone sales.

Research has shown that if a firm is focusing on sales and customer lifetime value, then the right choice of attributes/features is critical to the success of the strategy. The Smartphone industry is one where the inhabitants have to focus on economies of scale and customer lifetime value to survive in the highly competitive landscape. Thompson *et al.* (2005) suggested that choosing the number of features that promote initial choice usually results in the inclusion of too many features, hence potentially decreasing the lifetime value of the customer.

When the focus on future sales increases, the optimal number of offered features decreases, thus as per Thompson *et al.* (2005), firms should consider offering larger number of specialised products with limited features, as opposed to loading all possibilities into one product. The idea is to strike a balance between product capability and product usability based on Generation-Y utility function, i.e. the product capabilities they would like to have versus what they would actually use.

Feature overload/fatigue is a key situation that many device providers wish to avoid as it is a waste of research and development, and results in lost sales, negative perceptions and long-term degradation of the brand. It is what this study hopes to assist in preventing, by understanding the attributes/features that attract Generation-Y.

2.6.3.] Impact of innovativeness on consumer choice of Smartphone

Innovation is a requirement in the world of technology. The need for continual change and improvement is almost habitual, where consumers are addicted to the thrill of experiencing a new feature on a product that can have a positive impact on their daily lives. Although most understand that innovation is required to drive long-term growth, especially in complex industries such as the technology industry, Khan and Hyunwoo (2009) stated that one of the main reasons for failure of innovation diffusion is due to consumer resistance, as consumer adoption is dependent on a number of factors, the most critical being the psychological factor of how they view innovativeness.

In the present economic world where technology advances occur rapidly, innovations arise out of the incorporation of new features on existing products (Tomaseti, Sicilia &

Ruiz, 2003). Tomaseti *et al.* (2003: page 1) also showed that "For products with functional meaning, functional innovations will improve product evaluations more than for symbolic innovations", which means that a functional innovation added to a product would make the product more attractive. This holds true for Smartphones as they are a combination of functional and symbolic meaning.

The question, however, is whether the perception of innate innovativeness of the Smartphone manufacturer or the developers of the operating system will influence Generation-Y consumers to purchase a particular Smartphone? Tomaseti *et al.* (2003: page 1) also proposed that "For individuals with high innate innovativeness, functional innovations will improve functional product evaluations more than for symbolic product evaluations, with no differences expected for symbolic innovations", which held true after the analysis of their results. It could then be proposed that Generation-Y, which is known as being highly innovative, would be pre-disposed to highly innovative brands, as their evaluation of the innovative brand will be favourable amongst the suite of competitor products. It is also important to uncover how Generation-Y individuals view innovation in the Smartphone industry.

2.6.4.] Implicit and explicit attributes

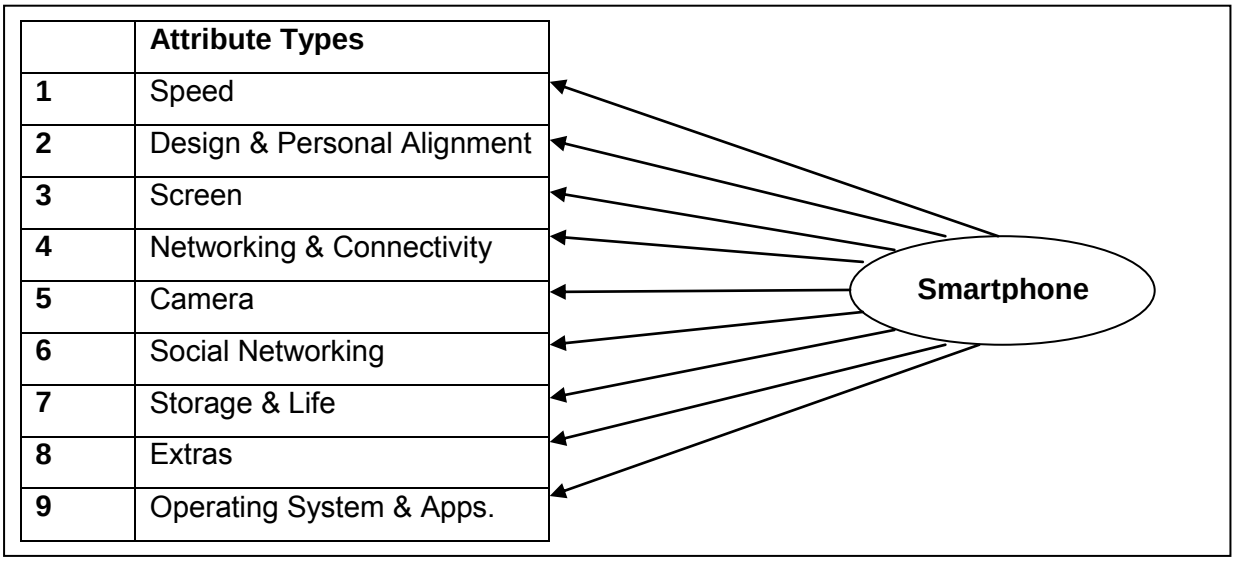
Peaw and Mustafa (2006) stated that during the purchase process, buyers usually compare attributes between several available options. The focus and consideration of attributes of each individual person is different, e.g. some may consider display, size, design etc. A psychologist, George Miller, found that the number of pieces of information that a human can deal with simultaneously is seven, plus or minus two. This holds true in all aspects of life, including when an individual is assessing a number of features/attributes.

Nine attribute types were chosen, which relate to specific aspects of implicit attributes, such as being related to the brand or an individual's image, and explicit attributes such as screen, design and comfort, etc.

The nine attribute types were chosen based on the discussions of previous articles and research examples. Work by WDSGlobal (2010) and NUIT (2011), implied that these were the attributes that are common and relevant to individuals in this era of Smartphone usage. These attributes were then broken down into the different attribute levels in terms of category, i.e. attribute levels that make up a part of the particular

attribute type. This was done to offer a more comprehensive collection of related attributes as it was found that in the multiple criteria decision-making process, individuals mentally link related product attributes/features to simplify the decision-making process (Tan *et al.,* 2011), hence the research could draw an understanding of to what degree each attribute affects the Generation-Y consumer in terms of influence when choosing a Smartphone.

As seen in Figure 1, due to the chosen attribute types bearing a strong association with the behaviours identified and exhibited by Generation-Y in chapter two, the following attribute types, based on research, in addition to more general ones, i.e. 'extras', were identified:



	Attribute Types
1	Speed
2	Design & Personal Alignment
3	Screen
4	Networking & Connectivity
5	Camera
6	Social Networking
7	Storage & Life
8	Extras
9	Operating System & Apps.

Figure 1: Nine Attribute Types

User behaviour is a central focus of this paper, where the researcher has elicited the behaviours of Generation-Y and attempted to identify Smartphone features/attributes that satisfy their behaviour type. We know that the 'digital-natives', i.e. Generation-Y, are motivated by: peer conformity, connectivity and features (WDSGlobal, 2010), hence the research investigated the attributes that the market currently understands as essential or popular. Smartphone attributes are extensive and replicated across models via different interfaces, however usage remains the same. The major distinction is the way the operating system handles the request for a particular service. Reisinger (2012) stated that 4G LTE, large display, latest OS, fast processor, NFC, storage, and a high-resolution camera are essential features for Smartphones. In addition, the touch screen and Wi-Fi (Hardy, 2010), attractive design (Mozota, 2003), and lifestyle integration and connectivity are important (WDSGlobal, 2010).

The specific attribute types expanded into their constituent attribute levels, which were chosen via discussions that implied these were relevant (WDSGlobal, 2010); (NUIT, 2011), are as follows:

Table 8: Attribute levels per attribute type

Attribute Type	Attribute Level
Speed	RAM, fast processor, responsive application control
Design and Personal Alignment	Slim size, attractive design, button placement, headset placement, durable quality materials, multiple desktops, customisable display, gorilla glass (scratch proof), voice command capable, widget capable, easy to navigate user interface, accurate touch keyboard input, gesture commands
Screen	Fluid touch screen, high resolution display, large screen, borderless full screen display, bright backlight, hi-definition graphics capable
Networking and Connectivity	Compatibility with other devices, Wi-Fi capable, inter-device connect ability e.g. Bluetooth, hotspot capable, Bluetooth capable, navigation/maps
Camera	Dual camera, camera resolution
Social Networking	Access to social media/networks, MMS, e-mail access, instant messaging, Internet browsing, open architecture (can share media)
Storage and Life	Large capacity fixed memory, memory card slot, long life battery
Extras	Radio, loud speakers, notifications and alerts (sounds)
Operating System and Apps	App store access, operating system type (e.g. Android, iOs), app store has all popular apps available for its operating system

It must be noted, however, that this list is not entirely extensive as it is open to interpretation based on individual understanding. Furthermore, for the purposes of this study only the most popular were chosen.

2.7.] Proposed satisfaction of Generation-Y behaviours through Smartphone attributes

2.7.1.] Generation-Y behaviour traits

Given the understanding of their behaviours that the research discovered earlier in chapter two, it can be speculated as to which Smartphone attribute types they may be attracted to. Hence one can understand how they may be influenced by the availability of those attributes in a product when going through the purchase decision-making process. The following behavioural traits regarding Generation-Y were identified:

Table 9: Summarized Behavioural traits of Generation-Y

Behavioural traits of Generation-Y
The need for instant gratification
The need to be socially connected
Brand aware and attracted but not brand loyal
Highly peer influenced
Personal image obsessed
Require alignment of products to their lifestyles
Highly attracted to the thought of innovation
Not afraid of change or technological flux

Given the above behavioural traits the research assumed the following:

Table 10: Associated behavioural traits to attribute type

Association of behavioural traits to Smartphone attribute type
The need for instant gratification is a trait that can be related to aspects of speed, performance and ease of use within the Smartphone
The need to be socially connected is a trait that can be related to Smartphone attributes that satisfy the social networking and communication needs
Brand awareness and peer influence can be related to the implicit attributes of the company's brand equity, it's products brand equity and the perception of its brand
Personal image can be related to the appearance and design of the Smartphone as well as the way it is perceived by the public
Alignment of products to one's lifestyle can be related to the customisability of the product, i.e. how much can one individualise and taper the product to suits one's particular needs
Innovation, can be related to the number of breakthrough innovations released by the company, or the perception of the company's innovative capability out in market

The above gives context in terms of how Generation-Y behavioural traits may be linked to Smartphone attribute types. The above associations were derived from an understanding of what Generation-Y looked for in each aspect, which was understood via deduction from literature as follows:

Instant Gratification is the need to have tasks done and needs satisfied immediately. Social Connection is the need to stay connected to peers and occurrences around the world. Brand Awareness is the need for a brand to be innovatory, dynamic and relevant. Personal Image is the need to be associated with a device that is seen as trendy, hip and in fashion. Alignment is the need to have products integrated with one's lifestyle and the allowance for customizability of products and services. Innovation is the need to have one's chosen brand be on the cutting edge of technology and new releases to add to the brand equity and strength.

Hence the above associations on Table 10 were based on an understanding of Smartphone attributes that speak to the behavioural traits and needs of Generation-Y individuals.

3] Chapter 3: Research Propositions

3.1.] Purpose of the research

The purpose of this research is to shed light onto the understanding as to why Generation-Y consumers choose the Smartphones that they do, as research has shown that Generation-Y consumers differ from other generations to the extent that traditional marketing techniques do not work on them (Hughes, 2008), and their purchase decision-making process cannot be predicted based on previous generational behaviour, such as that of the behaviour of Generation-X, or Baby-boomers. This is particularly important now, as the current landscape has seen the fall from grace of cellular titans which are now on the verge of bankruptcy. This is a fate that could fall easily upon any Smartphone producer, as this is a relatively young industry in its early phases (Kenny & Pon, 2011), which is based on the cellular one and is yet to normalise from a product leadership point of view.

Due to the abovementioned occurrences and the growing change in terms of consumer base, that being the growth in numbers of Generation-Y consumers, there is a need to investigate what the factors of influence that impact the consumer decision-making process of Generation-Y consumers in choosing Smartphones are. They are speculated to be vastly different to any other generation, so much so that generic marketing campaigns and product design strategies are likely to fail if this generation is not understood. Hence the aim of this research is to understand Generation-Y and what they look for when new Smartphones are released.

3.2.] Research propositions

The behavioural traits, social exposure, approach to consumption and general outlook exhibited by Generation-Y individuals has been exposed in order to understand the impact of the possible Smartphone attributes - both implicit and explicit - that influence Generation-Y consumers when purchasing a Smartphone. Overall, literature suggests that the drivers of Smartphone demand need to be better understood.

The following propositions are based on the knowledge acquired from literature on Generation-Y consumer behaviour and Smartphone attributes. These propositions are firstly linked to Generation-Y experiences and behaviours, and then based on their types of behaviour, the researcher attempts to match it to Smartphone attributes that will satisfy particular behavioural traits.

3.2.1.] Generation-Y and impact of brand perception on personal image

Generation-Y consumers, although not brand loyal, are extremely brand aware. Research has shown that this generation is aware of what is 'hot' versus not, and would opt for products that fulfill their aim of being unique. However, as contradictory as this sounds, being unique to this generation also means being with the 'in crowd', by following the latest trends and fashions. Due to the Smartphone being seen as an accessory to one's image, the research proposes that:

Proposition One [P1]: Generation-Y consumers are likely to choose a Smartphone product that satisfies a brand image perception to the rest of the world that shows that they are cool or different, either via a Smartphone producer brand or an operating system brand.

Proposition Two [P2]: Generation-Y consumers tend to choose Smartphone brands that are in fashion and 'cool' over other Smartphone brands that are not, even though they still satisfy the same functional needs.

3.2.2.] Generation-Y and the impact of a fast paced lifestyle and need for instantaneity

Generation-Y, having been born into a world of relative economic stability, is used to having their needs satisfied instantaneously. This sentiment is extended to the world of technology where information flow is growing exponentially; the presentation of information is required in an instant. This is testament to the search engine Google, which returns the fastest results of information queries. Hence with Generation-Y being used to spontaneity, the research proposes that:

Proposition Three [P3]: Generation-Y consumers are likely to choose a product that satisfies the need of instant gratification by choosing a Smartphone that excels in processor speed and responsiveness.

3.2.3.] Generation-Y and the impact of social networking

Literature has shown that Generation-Y is dependent on being connected to both their peers and the latest events in society (Pike, 2011). This is partially due to the environment that they have grown up in, where the rapid change in technology has resulted in communication becoming cheaper and more accessible in easier to digest

formats. Furthermore, having been born into an era where tools such as Twitter, Facebook, SecondLife, and MySpace have always been available, being connected has become a way of life. From this the research proposes that:

Proposition Four [P4]: Generation-Y consumers are likely to choose Smartphones which have attributes that are focused on facilitating their social networking needs, as well as attributes that facilitate the visibility of entertainment e.g. screen resolution for multimedia.

3.2.4.] Generation-Y and the impact of excitement created via innovation on brand strength

Research has shown that innovation adds to the strength of a brand image and its attractiveness. Furthermore, the perception that is created is a company that is pushing the boundaries for improvement and to stay competitive, thereby giving consumers comfort that their purchase will stay cooler for longer and not become outdated and stale. Due to the strong correlation between innovation and brand, the research proposes that:

Proposition Five [P5]: Generation-Y consumers are likely to choose a product that has a breakthrough innovation/s that has been mastered and released in the product, or where hype has been made.

4] Chapter 4: Research Methodology

4.1.] Research method and design

Saunders and Lewis (2012) stated that establishing a solid research design is essential for two reasons, the first being to decipher the research philosophy which assists in analysing the critical ideas surrounding the research, and the second being to confirm that the appropriate plan has been established so that the research results are credible. This research was conducted in a single phased approach through the administration of a questionnaire in a quantitative format. The aim was to ascertain answers to predominantly closed-ended questions, from information gathered from previous research. Descriptive research is research that produces an accurate account of a situation (Saunders & Lewis, 2012). Value from this technique is best realised when the researcher wishes to gain quantitative responses which require the collection of measurable data. Exploratory research is research that aims to seek new insights and reasons and to assess topics in a new light (Saunders & Lewis, 2012). Value is realised when the researcher wishes to gain insights into one area that will provide plausible propositions in another. This is predominantly done via searching academic literature. This requires interpretation of broad concepts, whereby one continually narrows down concepts elicited from the research.

A quantitative study has been conducted for this piece of research. Quantitative research is a systematic investigation of definite responses and can be used to make big decisions (Mouton, 2008). Quantitative data takes the form of categorical data or numerical data. Categorical data are data that have been grouped in a descriptive set or ranked in a particular order. Numerical data involves the measuring of the data using numbers (Saunders & Lewis, 2012). This research has made use of both categorical data in terms of attribute type and numerical data in terms of attribute scoring.

A deductive research approach has been utilised. As per Saunders and Lewis (2012), deduction assumes a top down approach to theory development, moving from broad generalisations and theories to specific observations. Theories and generalisations have been used to create specific measurements and observations. The patterns elicited and repeated behaviours or choice of ‘attributes’ that were noted, assisted in formulating constructs which have explained the propositions. Furthermore, this approach has allowed the researcher to give alternate explanations where data had presented an alternate view opposed to the view being sought. Having begun with understanding previous research regarding Generation-Y behaviours and traits, the

researcher applied those findings to the particular area of interest regarding choices in Smartphones based on attributes satisfying the identified behaviours and traits.

4.1.1.] Proposed Research Process

The research process was conducted via the use of questionnaires. Respondents answered a set of specific focused questions, which further prompted for a detailed response in the form of a reason where required. This allowed the researcher to gain insight into the thought process behind specific decisions taken by respondents. The aim of this research process has been to gain insights into the factors that affect the consumer's decision in choosing a new Smartphone.

4.1.2.] Population

The chosen population was that of Generation-Y individuals. The reason for this has been justified above in Chapter one where we discuss the need for this research. Generation-Y can be generalized to individuals between the ages of 17-34. The research was conducted at a multi-national company that is a professional blue chip firm in the banking industry. The reason this particular firm was chosen was due to the high population of Generation-Y individuals who were in positions that allowed them to afford expensive Smartphones. The population chosen were Generation–Y individuals between the ages of 18 and 34. Due to the total population being available via human resources in a list format, a sampling frame was utilised (Saunders & Lewis 2012). The respective firm was approached with a request for a list of all individuals born between the years 1978 and 1994. There was no prejudice regarding race, sex, geography, religion or income. The total sample frame was > 1400 individuals, however only 450 were selected to participate in the questionnaire via use of a stratified sampling technique (Saunders & Lewis 2012), where the sampling frame was split into layers and a simple random sample was selected from there.

4.1.3.] Sampling

For the purpose of this research, a stratified sampling technique and simple random sampling method was utilised, whereby out of every staff member from the drawn staff list of the entire organisation in the Johannesburg region, where the age bracket was between 18 and 34 years, or date of birth between 1978 and 1994, only 450 random individuals were selected. This was possible as the staff list was finite in nature and was available. This was a known method and an appropriate form of probability sampling utilised. The reason that this method was appropriate for the study was that

samples were readily available and participants could be chosen in a random manner. The choice of 450 random persons within the frame ensured the breadth of the sample. Only 326 (72%) out of 450 respondents successfully completed and returned the questionnaire for processing, while only 272 (83%) out of the 326 were considered valid and accurate. The population size of 450 was chosen to factor in added accuracy in statistical analysis of the data, and to account for the typical non-response and error response rate. This proved useful as only 60% (272 out of 450) was usable data.

Only valid complete questionnaires were utilised for further analysis. This was decided from a value analysis point of view where questionnaires that satisfied the following criteria were not chosen:

Table 11: Disqualification criteria for questionnaire

Questionnaire Disqualification		Action
Questionnaire validity disqualifying criteria	Questionnaire incomplete	Discard
	A proposition relevant question missed	Discard
	Response does not follow question request	Discard
	More selections made than required	Discard
	Question response not legible	Discard

The reason for this approach and stringent selection criteria was to ensure that data validity, integrity, completeness and sample consistency was maintained in the application to the research.

Respondents had to adhere to the following:

Table 12: Respondent requirements

Respondent Research Requirements
Generation-Y respondents:
- Are working class professionals
- Are between the ages of 18 and 34
- Own a Smartphone currently

4.1.4.] Unit of analysis

In terms of the unit of analysis, the researcher attempted to uncover the factors/attributes of a Smartphone that influence the decision-making process during the purchase of a new Smartphone, in the Generation-Y group.

4.1.5.] Data collection tool

A quantitative research questionnaire, which was closely correlated to the research propositions listed, was developed. A questionnaire tool was chosen because it was envisaged that the questionnaire would be able to collect data from a large enough number of respondents and hence provide the researcher with valuable data and insights to answer the research questions (Mouton, 2008).

Questionnaire question design and makeup:

The survey design was driven by the requirement to collect and collate the data both easily and cost effectively, as well as to provide a comprehensive dataset that offered meaningful findings.

Table 13: Questionnaire makeup

Questionnaire Makeup	
Question Origin	**Description**
Similar questions from previous research questionnaires	The reason these were used was to make use of well thought out, probing questions that satisfied the research propositions of the researcher.
Questions made up from inference of literature reviewed	This provided the researcher with questions based on facts elicited from previous research that was related to and that supported the propositions of the current study.
Questions of interest to the researcher	These were included to provide clarity on aspects that were not mentioned in literature, but that were related logically to the study.
Questions directly correlated to the research propositions	These were questions that probed respondents for information that was directly related to propositions. These responses attempted to provide insight to prove or disprove propositions via trends picked up in the analysis of the data collected.

This approach to the questions ensured that the majority of the questions addressed the research propositions and that they collected data that was relevant to the research propositions.

The questions were a mix of closed-ended questions and follow on open-ended reasons where justification was required. The questionnaire was made up of Likert type questions – agree, disagree, rank, score and choice.

Questionnaire Design

The questionnaire was designed through the use of Microsoft Word 2010, which was printed and deployed to respondents. The choice to use utilise a manual method vs. an electronic one such as Qualitrics or SurveyMonkey was to ensure a greater response rate by personally issuing the questionnaires. The questionnaire was made up of four sections.

Table 14: Questionnaire sections

Questionnaire Sections	
Section Type	**Description**
Profile questions	These were questions that gathered information about the respondent as well as the history of their Smartphone ownership.
Explicit feature influence questions	These were questions that focused directly upon tangible Smartphone attributes.
Implicit factors of influence	These were questions that focused directly upon the intangible Smartphone attributes, such as brand, quality, and reliability.
Consumer choice questions	These were questions that weighed up attributes against each other in terms of points of preference.

The questionnaire was built via gathered knowledge of Smartphone attributes and the behaviour traits of Generation-Y regarding their purchase mentality, brand loyalty, position on technology, lifestyle, personal image, etc.

Questionnaire Pre-testing

Questionnaire pre-testing is an important step to ensure that the required message is portrayed in every question and the intention is realised. The questionnaire was deployed to a population of ten random individuals who satisfied the selection criteria of being Generation-Y and owning a Smartphone. The reason that selection criteria had to be satisfied was that individuals who did not own a Smartphone or who were not of the required generation might not understand the context of questions, and furthermore would not be relevant to the study. Respondents were asked to complete the questionnaire and provide feedback regarding any of the following:

Table 15: Pre-Test criteria

Pre-Test Criteria
Ambiguity of questions
Complexity of questions
Difficulty in understanding questions
Errors in the questionnaire (spelling, wording, logic, contradictions)
Suggestions for change of questions

Feedback was given verbally to ensure that recommendations were understood in context of the issue. Suggestions were noted for applicability and addressed where they made sense to do so. The majority of the changes made were in regard to question ambiguity and complexity, and hence were modified to allow for easier understanding and clarity in instruction, however this was done in a manner whereby the essence of what the questions aimed to achieve was not lost.

4.1.6.] Data collection method

The respondents were awarded anonymity and confidentiality as they did not have to provide a name. Data were collected from individuals drawn from the firm employee list by initially acquiring the staff list from the human resource system and sorting the list according to the required age range, i.e. by removing any person out of the age range of 18-34, and then applying a simple random sampling technique over the sorted sample frame. This allowed for a completely random sample to be acquired over the frame. Printed questionnaires were personally delivered to respondents and collected within the day of issuance over a two-week period. This method proved effective in terms of driving a better response rate as respondents usually began the questionnaire at the point when it was given to them. Furthermore, respondents seemed to appreciate the personal approach and introduction in terms of the purpose of the study. This method was chosen as it allowed for personal follow up and the researcher could inspect the respondents' Smartphones to ensure that they met the criteria of a Smartphone.

4.1.7.] Analysis

SPSS (originally, Statistical Package for the Social Sciences) and now called referred to as 'Statistical Product and Service Solutions' was used for data analysis. The choice was mainly because it is a powerful computer programme which can be used to carry

out a wide variety of statistical analysis easily. It is also easy to create derived data in SPSS.

4.1.8.] Data analysis

Questionnaires were developed such that the responses were in categorical, descriptive form. The categorical data went through a coding phase which involved the allocation of a numerical number to the data that then enabled the researcher to transfer the data from survey to computer for analysis, which is an accepted process (Mouton, 2008). Data was analysed by ranking commonalities between respondents' choices and clustered accordingly. Clusters included a scoring value to ensure that equal choices were not possible, hence forcing rank.

4.1.9.] Factor analysis

Factor analysis was used to assess the dimensionality of the construct measuring "Brand image and coolness". Factor analysis is a statistical method used for data reduction (Gliem & Gliem 2003). The factor analysis was applied to reduce many attributes that were measuring "Brand image and coolness" to just two constructs. After applying factor analysis further, analysis will be used based on the reduced variables rather than the original variables.

4.1.10.] Cronbach's Alpha

Cronbach's Alpha was used to assess the internal consistency (reliability) of items in a scale. Internal consistency describes the extent to which all the items in a test measure the same concept or construct. The value of the Cronbach's Alpha ranges from zero to one and the closer the Cronbach's Alpha coefficient is to 1 the greater the internal consistency of the items in the scale (Gliem & Gliem 2003).

4.1.11.] One-sample t-test

One-sample T-Test was used to test the means of individual variables and constructs against the mid-point of the 5-point Likert scale (3). One sample t-test checked if the sample mean was different from a hypothesised value, which in this study was 3 (Park, 2009).

4.1.12.] Independent sample t-test

An independent sample t-test was used to compare two means of two independent random samples. The samples were independent in the sense that they were drawn from different populations and each element of one sample was not matched with its corresponding element in the other sample (such as male and female) (Park, 2009).

A Chi squared test was used to assess whether there was an association between categorical variables. In using the Chi square test, the expected values for each cell was not less than 5.

4.1.13.] Self-Explicated Conjoint Analysis

Conjoint analysis is a technique that measures the consumer preferences of a set of attributes and levels. It is a popular technique as it portrays the tradeoffs amongst multi-attribute products in a realistic manner (Katyal & Dawra, 2006). The questionnaire asked respondents to select 12 out of 46 features that were most important to them on a Smartphone. After choosing the 12 most important, the respondent then ranked the 12 attributes in order of importance. The final stage involved distributing 100 points across the 12 chosen features, in order of importance in terms of “have to have”, with the highest points allocated to the most important feature and the least points to the least important feature.

The analysis was done by first calculating utility value for every attribute per respondent for the 272 respondents by multiplying the rank (where 12 was the most important feature) by desirability. Thus a feature that was not on the chosen 12 for a particular respondent would have a utility of 0 for those respondents. The sum of all the utilities per feature was calculated by adding up all the utilities for that particular feature for all respondents. The features were then sorted by the utility sum from the one with the highest, thus the most important feature on a Smartphone for Generation-Y, up to the one with the least utility sum and hence the least important.

Self-explicated is a conjoint analysis method which starts by identifying features and levels of a product. Respondents were presented with Smartphone features individually and asked for their evaluations. Forty-six levels of Smartphone features were first presented to respondents where they would tick their 12 most desired levels. The respondents were then asked to rank their 12 chosen attributes in order of importance

(when coding in SPSS the most important was coded as 12 and the least as 1). Once the desirability scores had been assigned to various levels, the respondents were then asked to evaluate the importance of the features by using a constant sum scale to assign 100 points in accordance with the importance of each feature. A higher score was allocated to the most important level and all the points for the 12 levels added up to 100.

A utility was calculated for each level of every feature by multiplying the rank and the points assigned to the level. This implied that desirable levels of features that occur in important features had higher utility scores, while those that occurred in less important features had lower scores. A summation of all the utilities for a particular feature level was then calculated and the feature levels ranked with the one with the highest sum being in first position and the one with the least utility sum in the last position. The summation of all utilities for levels within a feature was summed up to get the total utility for that particular feature. The feature with the largest utility total was considered to be the most important. Self-explicated conjoint analysis is a robust hybrid approach that focuses on a number of attributes of a product. This was appropriate for this study as Smartphone attributes and their preference amongst consumers was the focus of the study. The further benefit of Self-explicated conjoint analysis is that it reduced stress on respondents and did not require statistical analysis or heuristic logic.

The following steps were performed in preparing the data:

Table 16: Data preparation for conjoint analysis

Steps of data preparation for Conjoint Analysis	
Step	**Preparation**
Step 1	Attribute levels were presented to respondents in the questionnaire for their best choice
Step 2	For each attribute level chosen the respondent then selected their order of chosen preference
Step 3	The remaining attribute levels were then described as the un-preferred attribute levels
Step 4	Thereafter levels within each attribute were rated in relationship to the most preferred and the least preferred levels
Step 5	Lastly the researcher measured how important the overall feature/attribute was in the preference, in terms of importance via a constant sum for the attribute feature by requesting the respondent to allocate 100 points to their most desired levels of each attribute
Step 6	The attribute level scores were then weighted by the attribute importance to then provide utility values for each attribute level

Descriptive statistics such as the mean, standard deviation and frequencies were also calculated to show the distribution of the variables.

4.1.14.] Ethics

Ethics in research is important to ensure that the truth and values that are vital for a meaningful piece of research are present. As such, the researcher was honest and accountable in the method and procedures used in conducting the study, for both the actual literature based research and the data collection.

Leedy et al. (2005) stated that ethical implications need to be noted when using individuals in research to ensure that sensitivity is maintained and the interest of the respondents are considered. Fundamental ethical issues are highlighted below that were taken into account when conducting the study:

Table 17: Ethical guidelines and principles

Ethical Guidelines and Principles
The researcher ensured that participants consented to answering questions and were informed about the nature of the study. Hence participants could opt to participate or not during the introduction of the questionnaire. The objective of the research was explained.
The researcher guaranteed confidentiality and that any form of feedback would be protected. Hence the researcher provided his details for further contact if required after the questionnaire was returned so that respondents could raise concerns.
The researcher ensured that respondents' age or preferences would not be disclosed during any social discussion.
The researcher ensured that respondents were protected from psychological harm or embarrassment as a result of questions posed, and from the release of responses, by ensuring anonymity.

The researcher agreed to respect all contributions and intellectual property. Furthermore, the organisation where the questionnaire was run was approached for permission to perform the research. The organisation did request their name to be kept confidential and hence the organisation name was respectfully not published.

Data gathering difficulty was experienced across a number of facets:

Table 18: Hurdles in data gathering

Hurdles in data gathering
The researcher had to approach some respondents numerous times to ensure that they completed the questionnaire.
Some respondents handed in partially complete questionnaires, which were thus discarded.
Some questionnaires were not answered accurately or as intended by the researcher, and were therefore discarded.
Some respondents were not available to return the questionnaire and hence these responses were not available for contribution.

4.1.15.] Data validity and reliability

Validity: depicts the extent to which findings of research are really about what they appear to be about (Saunders & Lewis 2012).

Testing was the only factor that could affect the validity of the findings, as the respondents may have found questions to be ambiguous or interpreted them differently to what the researcher intended. The researcher made use of examples to give the

respondent context around the question and the possible choice of response, in order to give clarity regarding the interpretation of the research questions.

Reliability: depicts the extent to which data collection and analysis produce consistent findings (Saunders & Lewis, 2012).

Subject bias may have occurred if the respondent had a preference to a particular brand or identified with a specific brand in the questionnaire. To prevent this, the research questions continuously brought the respondent back to “their favourite choice” by means of thought process, in the way the questions were structured.

5] Chapter 5: Results

5.1.] Descriptive statistics of the respondents

5.1.1.] Respondent and questionnaire requirements

The survey received 326 questionnaires out of a dispersion of 450, of which 272 were considered valid. The other 54 responses were excluded due to a number of reasons based on the criteria in the table below. The cleaning process was consistent and methodical, whereby questionnaires that satisfied the questionnaire disqualification criteria as specified in Table 1, were discarded. Respondents had three specific qualifying criteria, as seen in Table 1, that were asked at the beginning of the survey, and had to be met in order for the respondent to fill out the questionnaire.

Table 19: Disqualification criteria of questionnaire and respondent requirements

Questionnaire Disqualification		Action
Questionnaire validity disqualifying criteria	Questionnaire incomplete	Discard
	A proposition relevant question missed	Discard
	Response does not follow question request	Discard
	More selections made than required	Discard
	Question response not legible	Discard
Respondent Requirements		**Action**
Respondent qualifying Criteria	Own a Smartphone	Mandatory
	Between the ages 18-34	Mandatory
	A working professional	Mandatory

5.1.2.] Demographics and Smartphone statistics

As seen in Table 2, the majority of the respondents were male (59%). Most of the respondents (58%) were 25 – 34 years old, 41% were 19 – 24 years old and the remaining 1% was 17 – 18 years old. The majority of the respondents owned one Smartphone (76%), followed by those who owned two Smartphones (17%), then three Smartphones at 6% and 1% owned more than three Smartphones. Although 24% owned more than one Smartphone, only 10% used more than one Smartphone and the other 90% used one Smartphone. Of the 27 respondents who used more than one Smartphone, two did not specify the reason as to why they used more than one. Of the 25 who specified the reasons, they were, “Like both brands” (24%), “Like features offered in both” (24%), “Like both operating systems” (12%), “Wanted to test out both” (8%), “Other reasons” (12%) and the other 20% had “No particular reason” for using more than one Smartphone. Most respondents (89%) had had their current

Smartphone for 0 - 2 years, followed by 2 – 4 years (9%), and only 2% had had their Smartphones for more than 4 years. This showed a marginal percentage that hold on to their Smartphones, and that most individuals change their phones often.

Table 20: Respondent demographics

Respondent Demographics		Percentage
Gender	Male	59%
	Female	41%
Age	17 – 18 years	1%
	19 – 24 years	58%
	25 – 34 years	41%
Number of Smartphones owned	1	76%
	2	17%
	3	6%
	Greater than three	1%
Number of Smartphones	Only one Smartphone used at a time	90%
	More than one Smartphone used at a time	10%
Reason for using more than one Smartphone	Like both brands	24%
	Like features offered in both	24%
	Like both operating systems	12%
	Wanted to test out both	8%
	Need a spare phone	4%
	Different service provider	4%
Length of time using current Smartphone	0-2 years	89%
	2-4 years	9%
	More than 4 years	2%

The most popular phones were Blackberry (65%), Apple (60%), Samsung (35%), Nokia (26%), Sony (12%), HTC (11%), and Motorola (3%).

Table 21: Respondent Smartphone brand ownership

Respondent Demographics		Percentage
Brand Distribution	Blackberry	65%
	Apple	60%
	Samsung	35%
	Nokia	26%
	Sony	12%
	HTC	11%
	Motorola	3%

5.1.3.] Proposition One

Proposition One [P1]: Generation-Y consumers are likely to choose a Smartphone product that satisfies a brand image perception that exudes the perception of coolness or uniqueness, either via Smartphone producer brand or operating system brand.

Factor analysis of brand image and coolness

Six statements on the influence of brand image and coolness on choosing a new Smartphone were rated on a five point Likert scale, where 1 was no influence and 5 was a major influence. Factor analysis of the six statements was conducted to assess the dimensionality of the construct on brand image and coolness. The results are shown below:

Table 22: Proposition one - Component matrix

Rotated Component Matrix[a]				
	Factor 1	**Factor 2**	**Communalities**	**Cluster**
I can distinguish myself via my Smartphone	.908		.846	Operating System Coolness and Personal Image
My Smartphone reflects my personality	.901		.836	
Operating system brand (is known as cool)	.537		.575	
Smartphone device brand (is known for being innovatory)		**.873**	.765	**Device Coolness and Innovation**
Operating system brand (is known for being innovatory)		**.839**	.749	
Smartphone device brand (is known as cool)		**.558**	.536	
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in three iterations.				

The factor analysis resulted in brand image and coolness being split into two factors - factor 1 was “Operating System Coolness and Personal Image” and factor 2 was “Device Coolness and Innovation” as shown in the factor loadings in the table above.

All the variables that were grouped into either “Operating System Coolness and Personal Image”, or “Device Coolness and Innovation” had communalities greater than 0.5 and factor loadings greater than 0.5 as required for each variable in factor analysis.

The table below shows that there were 2 Eigenvalues greater than 1 and the criterion for number of factors to derive would indicate that there were two components to be extracted for these variables. “Operating System Coolness and Personal Image” explained 53% of the variability in brand image and coolness and “Device Coolness and Innovation” explained 18% of variance in brand image and coolness as indicated by the percentage variance explained. The cumulative percentage showed that the model explained 71.8% of the variation. The minimum acceptable value is 60%, thus the factor analysis produced good results.

Table 23: Variance explanation

Total Variance Explained									
Component	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**			**Rotation Sums of Squared Loadings**		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.206	53.432	53.432	3.206	53.432	53.432	2.196	36.596	36.596
2	1.101	18.349	71.781	1.101	18.349	71.781	2.111	35.185	71.781
3	.705	11.752	83.533						
4	.461	7.684	91.217						
5	.319	5.325	96.542						
6	.207	3.458	100.000						
Extraction Method: Principal Component Analysis.									

Cronbach's Alpha was calculated for the factors that were found from factor analysis to assess the internal consistency (reliability) of the items in each factor. The results are indicated in the table below:

Table 24: Cronbach's Alphas

Construct	Number of Items	Cronbach's Alpha
Operating System Coolness and Personal Image	I can distinguish myself via my Smartphone	**0.797**
	My Smartphone reflects my personality	
	Operating system brand (is known as cool)	
Device Coolness and Innovation	Smartphone device brand (is known for being innovatory)	**0.721**
	Operating system brand (is known for being innovatory)	
	Smartphone device brand (is known as cool)	

The Cronbach's Alpha for items in factor, "Operating System Coolness and Personal Image" was 0.797 and for items in factor 2, Device Coolness and Innovation" was 0.721. According to Gliem and Gliem (2003), Cronbach's Alphas greater than 0.7 are acceptable and thus summated scales can be computed for both "Operating System Coolness and Personal Image" and "Device Coolness and Innovation".

Summated scale

A summated scale was calculated for each construct by finding the average of the items in each construct. Further analysis was conducted using the summated scale for "Operating System Coolness and Personal Image" and "Device Coolness and Innovation".

To assess the hypothesis, one sample t-tests were conducted between the mean rating of both "Operating System Coolness and Personal Image" and "Device Coolness and Innovation" against the midpoint of the scale (3). One sample was used because in each case the mean of one sample (all respondents) was measured against the mid-point of the scale. A value significantly greater than 3 implied that the respondents were agreeing that they are likely to choose a Smartphone product that satisfies the construct. A value significantly lower than 3 implied that the respondents were disagreeing that they were likely to choose a Smartphone product that satisfies the construct.

The null hypothesis was that the mean rating is equal to the midpoint of the scale (3) and the alternative hypothesis was that the mean rating is not equal to the midpoint of the scale. The results are shown below:

Table 25: Proposition one - One sample test

One-Sample Statistics				One-Sample Test against the midpoint of the scale (3)	
	N	**Mean**	**Std. Deviation**	**t**	**p-value**
Operating System Coolness and Personal Image	271	3.082	1.085	1.241	0.216
Device Coolness And Innovation	271	3.431	0.931	7.612	**0.000**

The mean rating for "Operating System Coolness and Personal Image" was 3.082 and the p-value of the one sample t-test was 0.216. Since the p-value was greater than 0.05 (significance level), the null hypothesis was accepted and it was concluded that "Operating System Coolness and Personal Image" has non-significant influence on Generation-Y selecting a Smartphone.

On the other hand, the mean rating for "Device Coolness and Innovation" was 3.431 and the p-value of the one sample t-test was 0.000, which is less than 0.05. Thus the null hypothesis was rejected in favour of the alternative hypothesis and it can be concluded that "Device Coolness and Innovation" has a major influence on Generation-Y selecting a Smartphone.

Brand image and coolness by gender

To assess whether the influence of brand image and coolness was independent of gender, independent sample t-tests were conducted for "Operating System Coolness and Personal Image" and "Device Coolness and Innovation". The null hypothesis was that the average ratings for the two constructs are equal for both male and female against the alternative hypothesis that the average ratings for the two constructs differ depending on whether one is male or female. The results are shown below:

Table 26: Proposition one – Group statistics by gender

Group Statistics					Independent Samples t-test	
Gender		**N**	**Mean**	**Std. Deviation**	**t**	**P-value**
Operating System Coolness And Personal Image	Male	160	3.138	1.073	1.014	**.311**
	Female	111	3.002	1.102		
Device Coolness And Innovation	Male	160	3.511	0.912	1.725	**.086**
	Female	111	3.314	0.950		

The p-values for both "Operating System Coolness and Personal Image" and "Device Coolness and Innovation" were greater than 0.05 (the significance level), thus the null hypotheses are accepted and it is concluded that the influence of both "Operating System Coolness and Personal Image" and "Device Coolness and Innovation" is not dependent on gender.

Brand image and coolness by age

To assess whether the influence of brand image and coolness on the selection of Smartphones was independent of age, independent sample t-tests were conducted for "Operating System Coolness and Personal Image" and "Device Coolness and Innovation". The null hypothesis was that the average ratings for the two constructs are equal for both the 17 – 24 year age group and the 25 – 34 age group, against the

alternative hypothesis that the average ratings for the two constructs differ depending on one's age group. The results are shown below:

Table 27: Proposition one – Group statistics by age

Group Statistics					Independent Samples t-test	
Age		**N**	**Mean**	**Std. Deviation**	**t**	**P-value**
Operating System Coolness And Personal Image	17 - 24 years	114	**3.819**	0.959	11.667	**.000**
	25 - 34 Years	157	2.547	0.829		
Device Coolness And Innovation	17 - 24 years	114	**3.977**	0.734	9.723	**.000**
	25 - 34 Years	157	3.034	0.857		

The results revealed that the 17 – 24 year age group is more influenced by both "Operating System Coolness and Personal Image" and "Device Coolness and Innovation" than those in the 25 – 34 age groups. This is because the 17 – 24 year age group had a higher rating in both constructs and the p-values of the independent samples t-test were both less than 0.05.

5.1.4.] Proposition Two

Proposition Two [P2]: Generation-Y consumers tend to choose Smartphone brands that are in fashion and cool over other Smartphone brands that are not, even though they still satisfy the functional needs exactly.

Respondents were asked if they agreed or disagreed with six statements on selecting Smartphone brands that are in fashion and cool over other features. No statistical analysis besides calculating frequencies and percentages was carried out on the total sample since it was just agree or disagree question. The table below shows how they answered the questions.

Table 28: Proposition two – Questions

	Question	N	Agree	Disagree
1	If 2 Smartphone's had the same features I would choose the Smartphone that is the **current craze** from a Brand point of view.	272	**66%**	34%
2	If 2 Smartphone's had the same features I would choose the Smartphone that is the **current craze** from an operating system point of view.	272	46%	**54%**
3	If 2 Smartphone's had the same features I would choose the Smartphone that has a more flexible operating system over the one that is the **current craze** from a Brand point of view.	270	**61%**	39%
4	If 2 Smartphone's had the same features I would choose the Smartphone that is known for Quality over being the **current craze** from a Brand point of view.	271	**73%**	27%
5	If 2 Smartphone's had the same features I would choose the Smartphone that is known for Reliability over being the **current craze** from a Brand point of view.	272	**72%**	28%
6	If 2 Smartphone's had similar features I would choose the Smartphone that has just come out with a new breakthrough innovation/feature, over one that is the **current craze** (Everyone wants one).	272	**61%**	39%

66% of respondents agreed with the statement "If 2 Smartphone's had the same features I would choose the Smartphone that is the current craze from a Brand point of view".

However the majority of the respondents showed responses contrary to the common thought that brand is a significant influence, as seen by the following data in the table above where questions two to six revealed that correspondents value, innovation, quality, reliability and flexibility over brand. Further analysis of this trend is performed below, where the researcher looked at the choices against age.

Smartphone brands in fashion and cool over other features by age

To evaluate the hypothesis, a chi square test of independence was conducted. The null hypothesis was that there is no association between choice of brand and age group and the alternative hypothesis was that there is an association between age and choice. The results are shown below:

Table 29: Proposition two - Crosstab

Crosstab					
			D1. If 2 Smartphone's had the same features I would choose the Smartphone that is the current craze from a Brand point of view.		
			Agree	Disagree	Total
Age	17 - 24 years	Count	95	19	114
		% within D1	**53.1%**	20.4%	41.9%
Age	25 - 34 Years	Count	84	74	158
		% within D1	**46.9%**	79.6%	58.1%
Total		Count	179	93	272
		% within D1	100.0%	100.0%	100.0%

Table 30: Proposition two – Chi-square test

Chi-Square Tests			
	Value	df	P-Value
Pearson Chi-Square	26.786[a]	1	**.000**
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 38.98.			

The p-value of the chi square test was less than 0.05 (significance level), thus the null hypothesis is rejected and it is concluded that the choice of a Smartphone that is the current craze from a brand point of view is dependent on age. From the cross tabulation it can be noted that the 17 – 24 year (53%) olds are more likely to choose Smartphones that are the current craze from a brand point of view than the 25 -34 years olds (47%).

Table 31: Proposition two - Crosstab

Crosstab					
			D2. If 2 Smartphone's had the same features I would choose the Smartphone that is the current craze from an operating system point of view.		
			Agree	Disagree	Total
Age	17 - 24 years	Count	49	65	114
		% within D2	39.5%	43.9%	41.9%
Age	25 - 34 Years	Count	75	83	158
		% within D2	60.5%	56.1%	58.1%
Total		Count	124	148	272
		% within D2	100.0%	100.0%	100.0%

Table 32: Proposition two - Chi square test

Chi-Square Tests			
	Value	df	P-Value
Pearson Chi-Square	.537[a]	1	.464
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 51.97.			
b. Computed only for a 2x2 table			

The p-value for the chi square test (0.464) is greater than (significance level), thus the null hypothesis is accepted and it can be concluded that the choice of a Smartphone that is the current craze from an operating system point of view is independent of age.

Table 33: Proposition two - Crosstab

Crosstab					
			D3. If 2 Smartphone's had the same features I would choose the Smartphone that has a more flexible operating system over the one that is the current craze from a Brand point of view.		
			Agree	Disagree	Total
Age	17 - 24 years	Count	66	47	113
		% within D3	39.8%	45.2%	41.9%
Age	25 - 34 Years	Count	100	57	157
		% within D3	60.2%	54.8%	58.1%
Total		Count	166	104	270
		% within D3	100.0%	100.0%	100.0%

Table 34: Proposition two – Chi-square test

Chi-Square Tests			
	Value	df	P-Value
Pearson Chi-Square	.776[a]	1	.378
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 43.53.			
b. Computed only for a 2x2 table			

The p-value for the chi square test (0.378) was greater than the (significance level), thus the null hypothesis is accepted and it can be concluded that the choice of Smartphone that has a more flexible operating system over the one that is the current craze from a brand point of view is independent of age.

Table 35: Proposition two - Crosstab

Crosstab					
			D7. If 2 Smartphone's had the same features I would choose the Smartphone that is known for Quality over being the current craze from a Brand point of view.		
			Agree	Disagree	Total
Age	17 - 24 years	Count	56	58	114
		% within D7	**28.3%**	79.5%	42.1%
Age	25 - 34 Years	Count	142	15	157
		% within D7	**71.7%**	20.5%	57.9%
Total		Count	198	73	271
		% within D7	100.0%	100.0%	100.0%

Table 36: Proposition two – Chi-square test

Chi-Square Tests			
	Value	Df	P-Value
Pearson Chi-Square	57.302[a]	1	**.000**
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 30.71.			
b. Computed only for a 2x2 table			

The p-value for the chi square test (0.000) was less than 0.05 (significance level), thus the null hypothesis is rejected and it is concluded that the choice of a Smartphone that is known for quality over the one that is the current craze from a brand point of view is dependent on age. From the cross tabulation it can be noted that the older group (25 – 34 years) are more inclined to quality than brand compared to the 17 – 24 age group.

Table 37: Proposition two – Crosstab

Crosstab					
			D8. If 2 Smartphone's had the same features I would choose the Smartphone that is known for Reliability over being the current craze from a Brand point of view.		
			Agree	Disagree	Total
Age	17 - 24 years	Count	52	62	114
		% within D8	**26.4%**	82.7%	41.9%
Age	25 - 34 Years	Count	145	13	158
		% within D8	**73.6%**	17.3%	58.1%
Total		Count	197	75	272
		% within D8	100.0%	100.0%	100.0%

Table 38: Proposition two – Chi-square test

Chi-Square Tests			
	Value	df	P-Value
Pearson Chi-Square	70.648[a]	1	**.000**
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 31.43.			
b. Computed only for a 2x2 table			

The p-value for the chi square test (0.000) was less than 0.05 (significance level), thus the null hypothesis is rejected and it is concluded that the choice for a Smartphone that is known for reliability over being the current craze from a brand point of view is dependent on age. From the cross tabulation it can be noted that the older group (25 – 34 years) are more inclined to reliability than their younger counterparts who are more inclined towards brand.

Table 39: Proposition two - Crosstab

Crosstab					
			D10. If 2 Smartphone's had similar features I would choose the Smartphone that has just come out with a new breakthrough innovation/feature, over one that is the current craze (Everyone wants one).		
			Agree	Disagree	Total
Age	17 - 24 years	Count	47	67	114
		% within D10	**28.3%**	63.2%	41.9%
Age	25 - 34 Years	Count	119	39	158
		% within D10	**71.7%**	36.8%	58.1%
Total		Count	166	106	272
		% within D10	100.0%	100.0%	100.0%

Table 40: Proposition two – Chi-square test

Chi-Square Tests			
	Value	df	P-Value
Pearson Chi-Square	32.354[a]	1	**.000**
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 44.43.			
b. Computed only for a 2x2 table			

The p-value for the chi square test (0.000) was less than 0.05 (significance level), thus the null hypothesis is rejected and it is concluded that the choice of a Smartphone that has just come out with a new breakthrough innovation/feature over one that is the current craze (everyone wants one) is dependent on age. From the cross tabulation it can be noted that the older group (25 – 34 years) were more inclined to breakthrough innovation than their younger counterparts, who were more inclined towards the current craze Smartphone.

In summary, the table below shows that age does play an influence in four of the six brand choice questions which were of significance, which show that the younger group of Generation-Y, i.e. those between 17 and 24 years of age, are more inclined towards brand than the older 25-34 years of age Generational-Y correspondents.

Table 41: Proposition two - Questions

Question	Majority Vote	
	Agree	Disagree
D1. If 2 Smartphone's had the same features I would choose the Smartphone that is the current craze from a Brand point of view.	**17-24**	**25-34**
D7. If 2 Smartphone's had the same features I would choose the Smartphone that is known for Quality over being the current craze from a Brand point of view.	**25-34**	**17-24**
D8. If 2 Smartphone's had the same features I would choose the Smartphone that is known for Reliability over being the current craze from a Brand point of view.	**25-34**	**17-24**
D10. If 2 Smartphone's had similar features I would choose the Smartphone that has just come out with a new breakthrough innovation/feature, over one that is the current craze (Everyone wants one).	**25-34**	**17-24**

5.1.5.] Proposition Three

Proposition Three [P3]: Generation-Y consumers are likely to choose a product that satisfies the need of instant gratification by choosing a Smartphone that excels in processor speed and responsiveness.

To evaluate the above question, Self-explicated conjoint analysis was conducted. The questionnaire asked respondents to select 12 out of 46 features that were most important to them on a Smartphone. After choosing the 12 most important, the respondents ranked the 12 attributes in order of importance. The final stage involved distributing 100 points across the 12 chosen features in order of importance in terms of 'have to have', with the highest points allocated to the most important feature and the least points to the least important feature.

The analysis was done by first calculating utility value for every attribute per respondent for the 272 respondents, by multiplying the rank (where 12 was the most important feature) by desirability (points out 100). Thus a feature that is not on the chosen 12 for a respondent would have a utility of 0. The sum of all the utilities per feature was calculated by adding up all the utilities for that particular feature for all respondents.

The sum was used as it takes into account the number of respondents who chose feature, the rank and the points awarded. A higher value meant the importance was

higher. The rank as well as the number of respondents who like the feature was taken into account in this method.

Unlike the mean which might have two respondents liking a feature and giving the feature a high rank and a high point and thus a resultant high average utility, which could even be higher that the mean for a feature that was selected by a lot of respondents, this method would have proven inaccurate and ineffective.

The features were then sorted by the utility sum from the one with the highest, and thus the most important, feature on a Smartphone for Generation y, up to the one with the least utility sum and hence the least important. The results are shown in the table below.

The attribute level 'Fast Processor', which forms part of the attribute type 'Speed', ranked 7th amongst the top 12 Smartphone levels.

Table 42: Attribute level ranking

Attribute Type	Attribute level	N	Utility Sum	Position
Social Networking	Instant Messaging	160	13952.10	**1**
Social Networking	Email Access	163	13402.91	**2**
Screen	Fluid Touch Screen	150	13101.95	**3**
Social Networking	Internet Browsing	143	12615.09	**4**
Social Networking	Access to Social Media/	136	12425.90	**5**
Storage and Life	Long Life Battery	139	12055.65	**6**
Speed	Fast Processor	153	10325.83	**7**
Screen	High Resolution Display	145	10263.03	**8**
Screen	Large Screen	108	9742.44	**9**
Camera	Camera Resolution	146	9639.92	**10**
Design and Personal Alignment	Slim in Size	124	7456.69	**11**
Design and Personal Alignment	Attractive Design	112	7376.12	**12**
Design and Personal Alignment	Accurate Touch Keyboard Input	81	5611.68	13
Networking	Internet	72	5355.91	14

Design and Personal Alignment	Easy to navigate User Interface	104	5143.29	15
Speed	A lot of RAM	63	5102.53	16
OS and Apps	Operating System Type	94	4777.65	17
Storage and Life	Large Capacity Fixed Memory	92	4551.86	18
Design and Personal Alignment	Widget Capable	51	3528.94	19
Speed	Responsive application control	49	3481.73	20
Networking	Wi-Fi Capable	63	3394.53	21
Networking	Hotspot capable	47	3319.96	22
Camera	Dual Camera	49	2858.11	23
Networking	Navigation/Maps	56	2384.84	24
Social Networking	Open Architecture-(can share media)	59	2376.43	25
OS and Apps	App Store Access	75	2373.36	26
Networking	Inter Device Connect ability	64	2113.01	27
Networking	Compatibility with other	61	1930.56	28
Storage and Life	Memory Card Slot	39	1850.29	29
Design and Personal Alignment	Durable Quality Materials used in	48	1643.95	30
Networking	Bluetooth Capable	39	1589.87	31
Design and Personal Alignment	Gorilla Glass (scratch proof)	39	1491.97	32
OS and Apps	App store has all popular	34	1302.48	33
Screen	Hi-Definition Graphics Capable	20	949.72	34
Screen	Borderless Full Screen	19	832.98	35
Extras	Notifications and	25	701.03	36
Social Networking	MMS	21	688.83	37
Extras	Radio	20	553.10	38
Design and Personal Alignment	Headset placement assists comfort	25	441.21	39
Design and Personal Alignment	Button placement assists gaming	32	417.23	40
Design and Personal Alignment	Customizable Display	18	400.31	41
Design and Personal Alignment	Multiple Desktops	8	257.58	42
Extras	Loud Speakers	11	192.51	43

Design and Personal Alignment	Voice Command Capable	7	114.15	44
Screen	Bright Backlight	8	109.65	45
Design and Personal Alignment	Gesture Commands	4	55.12	46

All the utility sums for the features in an attribute type were added up and also sorted by the sum. The utility for each feature was expressed as a percentage of the grand total utility as shown in the table below:

Table 43: Attribute type ranking

Attribute Type	Utility Sum	As a percentage of Total Utility	Position
Social Networking	55461	27%	**1**
Screen	35000	17%	**2**
Design and Personal Alignment	33938	17%	**3**
Networking	20089	10%	**4**
Speed	18910	9%	**5**
Storage and Life	18458	9%	**6**
Camera	12498	6%	**7**
OS and Apps	8453	4%	**8**
Extras	1447	1%	**9**
Grand Total	204254	100%	

Social networking was the highest valued attribute (27%), followed by screen at 17%, design and personal alignment (17%), networking (10%), speed (9%), storage life (9%), camera (6%), OS and apps (4%), and finally extras with only 1%. The attribute type 'speed', ranked 5th out of the nine attribute types in terms of correspondent priority.

Table 44: Proposition three - Consumer choice questions

Consumer Choice Questions	N	Agree	Disagree
I would rather choose a Smartphone that is fast and responsive over one that is the current Craze but not as fast and responsive.	271	**86%**	14%
I would rather choose a Smartphone that has a superior camera over one that is fast and responsive.	272	37%	**63%**
I would rather choose a Smartphone that has superior display capabilities over one that is fast and responsive.	272	38%	**62%**

(86%) of respondents would rather choose a Smartphone which excels at being fast and responsive over having one that is the current brand craze. 63% of respondents valued speed over camera capability, which is consistent with the choice of attributes where speed was rated 7th as opposed to camera at 10th. 62%)of respondents valued speed opposed to screen display capabilities.

5.1.6.] Proposition Four

Proposition Four [P4]: Generation-Y consumers are likely to choose Smartphones which have attributes that are focused on facilitating their social networking needs.

Social Networking

After grouping all attributes levels to the attributes types via the method used in proposition three, social media came up as the most popular feature in first position on the list with Generation-Y users. On the list of all features (attribute levels), instant messaging came first, email access came second, internet browsing came fourth, access to social media came fifth, open architecture (can share media) came in at 25 and MMS at 37. The positions are shown in the table below:

Table 45: Proposition four – Social networking ranking

Attribute Type	Attribute level	N	Utility Sum	Position
Social Networking	Instant Messaging	160	13952.10	1
Social Networking	Email Access	163	13402.91	2
Social Networking	Internet Browsing	143	12615.09	4
Social Networking	Access to Social Media	136	12425.90	5
Social Networking	Open Architecture (can share media)	59	2376.43	25
Social Networking	MMS	21	688.83	37

Due to four of the six social networking features (attribute levels) appearing in the top 12, the findings show strong alignment to the proposition that social networking is a major influence in respondent choice and decision-making. In terms of total utility, social networking appeared first as the most important attribute/feature (attribute type), hence it was concluded that social networking is an extremely important feature that Generation-Y consumers require in a Smartphone.

5.1.7.] Proposition Five

Proposition Five [P5]: Generation-Y consumers are likely to choose a product that has a breakthrough innovation/s that has been mastered and released in the product, or where hype has been made.

To assess hypothesis one, sample t-tests were conducted between the mean ratings for statements on breakthrough innovation against the midpoint of the scale. The null hypothesis was that the mean rating is equal to the midpoint of the scale (3) and the alternative hypothesis was that the mean rating is not equal to the midpoint of the scale. The results are shown below:

Table 46: Proposition five – One-sample test

One-Sample Statistics				One-Sample Test against the midpoint of the scale (3)	
Factors of influence	**N**	**Mean**	**Std. Deviation**	**t**	**P-value**
Smartphone device brand response to breakthrough innovations (is known to master specific innovations)	271	3.77	.916	13.800	**.000**
Smartphone device brand is seen as a market leader in specific technologies	270	3.90	1.023	14.516	**.000**
Smartphone device brand shows signs of longevity	269	3.33	1.283	4.182	**.000**
Smartphone brand is known to release a new Innovation in every version release	271	3.30	1.146	4.242	**.000**

The mean ratings were: "Smartphone device brand response to breakthrough innovations (is known to master specific innovations)" (3.77), "Smartphone device brand is seen as a market leader in specific technologies" (3.90), "Smartphone device brand shows signs of longevity" (3.33), and "Smartphone brand is known to release a new Innovation in every version release" (3.30), all of which were greater than the mid-point of the scale (3). The p-values were all less than 0.05, which means that the null hypotheses were all rejected and it was concluded that Generation-Y consumers are likely to choose a product that has a breakthrough innovation/s that has been mastered/released in the product, or where hype has been made.

This shows that Generation-Y consumers are highly influenced by Smartphone brands that are known to be innovators or market leaders. The conclusion was reached that Generation-Y respondents value innovation and its association with brand as an important influence in their decision-making process when choosing a Smartphone.

Breakthrough innovation/s mastered and released in a product by age

To assess whether the influence of breakthrough innovation/s that has been mastered/released in the product, or where hype has been made, was dependent on age. Independent sample t-tests were conducted for the breakthrough innovation statements. The null hypothesis was that the average ratings for each of the four statements are equal for both the 17 – 24 year age group and the 25 – 34 year age

group, against the alternative hypothesis that the average ratings for the statements differ depending on whether one's age group. The results are shown below:

Table 47: Proposition five – Group statistics - Age

Group Statistics					Independent Samples t-test	
	Age	**N**	**Mean**	**Std. Deviation**	**t**	**P-value**
Smartphone device brand response to breakthrough innovations (is known to master specific innovations)	**17 - 24 years**	114	**3.95**	.840	2.844	**0.005**
	25 - 34 Years	157	3.64	.948		
Smartphone device brand is seen as a market leader in specific technologies	**17 - 24 years**	113	**4.06**	.957	2.171	**0.031**
	25 - 34 Years	157	3.79	1.056		
Smartphone device brand shows signs of longevity	17 - 24 years	113	2.58	1.223	**-9.168**	**0.000**
	25 - 34 Years	156	**3.87**	1.027		
Smartphone brand is known to release a new innovation in every version release	**17 - 24 years**	114	**3.95**	.967	9.120	**0.000**
	25 - 34 Years	157	2.82	1.028		

The results shows that the 17 – 24 year age group is more influenced by "Smartphone device brand response to breakthrough innovations (is known to master specific innovations)", "Smartphone device brand is seen as a market leader in specific technologies", and "Smartphone brand is known to release a new innovation in every version release", compared to the 25 – 34 year age group. This is because the mean ratings are higher for the 17 – 24 year age group and the p-values of the t-tests are less than 0.05. Thus the null hypothesis is rejected.

On the other hand, the 25 – 34 year age group is more influenced by longevity compared to the 17– 24 year age group. The mean value is higher for the older and the p-value is less than 0.05, thus the null hypothesis is rejected.

5.2.] Summary

Table 48: Proposition findings summary

	Proposition	Accept/Reject
Proposition One [P1]:	Generation-Y consumers are likely to choose a Smartphone product that satisfies a brand image perception that exudes the perception of coolness or uniqueness, either via Smartphone producer brand or operating system brand.	Accept
Proposition Two [P2]:	Generation-Y consumers tend to choose Smartphone brands that are in fashion and cool, over other Smartphone brands that are not, even though they still satisfy the functional needs exactly.	Accept
Proposition Three [P3]:	Generation-Y consumers are likely to choose a product that satisfies the need of instant gratification by choosing a Smartphone that excels in processor speed and responsiveness.	Accept
Proposition Four [P4]:	Generation-Y consumers are likely to choose Smartphones which have attributes that are focused on facilitating their social networking needs.	Accept
Proposition Five [P5]:	Generation-Y consumers are likely to choose a product that has a breakthrough innovation/s that has been mastered/released in the product, or where hype has been made.	Accept

6] Chapter 6: Discussion

This chapter reveals the depth of insights into the findings, in terms of both the context of the study and in light of the supporting literature. The results described in Chapter five above have been discussed and analysed in relation to the research propositions described in Chapter three, the theory base of Chapter two, and problem identified as discussed in Chapter one.

The following are the research objectives that the researcher hoped to achieve via the study, which also provided the purpose of being a guideline to keep the propositions and research analysis concise:

Table 49: Research objectives

Research Objectives
To understand the priority of explicit Smartphone attributes that influence Generation-Y consumers choosing a Smartphone
To understand the level of influence that implicit attributes has on the decision-making process in choosing a Smartphone
To understand what latent attributes of a new feature Generation-Y consumers look for when deciding to purchase a Smartphone, e.g. quality, response, best in market, etc.
To understand the impact that innovativeness has on influencing a user to choose a particular brand when purchasing a Smartphone

The following propositions were developed in Chapter Three based on previous research literature, with the aim of helping to satisfy the objectives specified above.

Table 50: Research propositions

Research Propositions
[P1]: Generation-Y consumers are likely to choose a Smartphone product that satisfies a brand image perception to the rest of the world that shows that they are cool or different, either via a Smartphone producer brand or an operating system brand.
[P2]: Generation-Y consumers tend to choose Smartphone brands that are in fashion and 'cool' over other Smartphone brands that are not, even though they still satisfy the same functional needs.
[P3]: Generation-Y consumers are likely to choose a product that satisfies the need of instant gratification by choosing a Smartphone that excels in processor speed and responsiveness.
[P4]: Generation-Y consumers are likely to choose Smartphones which have attributes that are focused on facilitating their social networking needs, as well as attributes that facilitate the visibility of entertainment e.g. screen resolution for multimedia.
[P5]: Generation-Y consumers are likely to choose a product that has a breakthrough innovation/s that has been mastered and released in the product, or where hype has been made.
[P6]: Generation-Y consumers of the age group between 25-34 years are likely to choose Smartphone attributes that are different to those below 25 years, i.e. those that satisfy functional explicit needs over implicit brand and image needs.

6.1.] Detailed analysis

6.1.1.] Generation-Y and impact of brand perception on personal image

Proposition One [P1]: Generation-Y consumers are likely to choose a Smartphone product that satisfies a brand image perception that exudes the perception of coolness or uniqueness, either via Smartphone producer brand or operating system brand

The results of the factor analysis of brand image and coolness as elicited and stated in Table 51 indicated that Generation-Y consumers are, as proposed, influenced by the brand and image related "factors of influence".

Table 51: Significant and Non-Significant factors of influence

No.	Factor of influence	Significance
i1	Smartphone device brand (is known as cool)	Significant
i5	Smartphone device brand (is known for being innovatory)	Significant
i6	Operating system brand (is known for being innovatory)	Significant
i3	Operating system brand (is known as cool)	Not Significant
i14	My Smartphone reflects my personality	Not Significant
i15	I can distinguish myself via my Smartphone	Not Significant

Factor analysis tiered the above six influencers into two factored groups, where only i1, i5 and i6 with a p-value of [0.000], proved to be of significant influence. The three that indicated average influence of no significance were i3, i14 and i15. Interestingly, this split revealed that the actual device brand, such as Apple, Samsung, Nokia and Blackberry, as opposed to the operating system brand is more important, especially if it is associated as being 'cool', i.e. trendy, hip, in fashion, or popular. This, however, although being a further finding to the initial one where Hwa *et al.* (2011) found that Generation-Y consumers are generically brand conscious, shows that it is the specific brand of the developer of the Smartphone device who packages all attributes, including the operating system, that matters, as opposed to the operating system brand.

Hence the following table depicts the three factors that significantly influence Generation-Y individuals in terms of coolness and uniqueness.

Table 52: Significant factors of influence

No.	Factor of influence	Significance	P-Value
i1	Smartphone device brand (is known as cool)	Significant	0.000
i5	Smartphone device brand (is known for being innovative)	Significant	
i6	Operating system brand (is known for being innovative)	Significant	

Importance should be placed on how the brand is perceived, in particular the associated 'coolness' of the brand. Furthermore, the findings of this research shows that a Smartphone device and operating system brand that are known to be innovative influence the Generation-Y consumer decision-making process, as they showed high significance amongst respondents' choices. This is supported by the discussion by

Milenkova (2012), in that innovation adds to the strength and attractiveness of a brand, its coolness factor, and is required to support the customer's perception of it. This is further supported by the finding of Chen *et al.* (2012), who found that brand equity was positively correlated with consumer purchase intention, showing that brand equity does have an impact on purchase intention.

The findings suggest that Smartphone developers should focus on their product brand as opposed to relying on the strength of the association of the operating system brand with the device. The findings have shown that although Generation-Y consumers view i3, i14 and i15 as influencers in the choice of Smartphone, they are not as significant as i1, i5 and i6.

The deviation of i3, i14 and i15 could be explained by the fact that brand does allow one to distinguish oneself, as stated by Sahay and Sharma (2010), hence respondents place more focus on the brand image as this implicitly satisfies the roles of i14 and i15, where one can distinguish oneself and where personality is reflected via the choice of Smartphone. Therefore although chosen, these factors of influence were not significant amongst respondents' choices.

6.1.2.] Generation-Y and impact of brand perception on personal image… (Cont.)

Proposition Two [P2]: Generation-Y consumers tend to choose Smartphone brands that are in fashion and 'cool' over other Smartphone brands that are not, even though they still satisfy the same functional needs

The results of the research regarding the choice of brands that are considered cool suggested that respondents value other attributes such as: innovation, quality, reliability, and flexibility over brand, which is consistent with the findings of Quintal, Phau and Sims (2009), who stated that Generation-Y is willing to pay more for brands that represent quality, due to being socially and environmentally brand conscious.

Hence it appears that explicit practical attributes are more favourable than implicit intangible attributes such as brand. This thought is supported by Williams and Page (2010), who surmised that Generation-Y consumers are not repeat purchasers due to loyalty, but they are aware of the trendy brands and the notion of fit for function, that is the practical aspects of the product. If those suit their desired profile and image they

are likely to be attracted to it, either the first time round or repeatedly. This simply states that Generation-Y consumers - although being aware of the trendy brands - will satisfy practical and image related aspects first when deciding on a product.

The contradicting aspect is that the body of knowledge does suggest that Generation-Y are image-driven individuals who strive to make a personal statement via their individuality, with influence primarily coming from their peers and the media (Hwa *et al.*, 2011), which is predominantly satisfied by being in the loop with the latest brands. Due to this conflict, the research has been extended further to include analysis of age and gender in an attempt to explain the anomaly.

Results of the further analysis via gender resulted in a P-value in excess of [0.005] which proved insignificant. The analysis via age provided a P-Value of [0.000], which indicated significance in four of the six questions. The results are summarised in Table 53 below.

The analysis shows that for D1, of the 66% that agreed that they would choose the trendier Smartphone brand, there were a higher percentage of Generation-Y respondents between the ages of 17-24 than 25-34 that made this choice. This trend is common amongst D7, D8, and D10, where we see that of the 61%, 73%, and 61% respectively who chose practical attributes over brand, the higher percentages were representative of the 25-34 year age group of Generation-Y. This therefore shows a trend that brand is significantly more important to the younger 17-24 year-old batch of Generation-Y.

Table 53: Proposition two - Question stats

	Question	17-24		25-34		Overall
		Agree	Disagree	Agree	Disagree	
D1	If 2 Smartphone's had the same features I would choose the Smartphone that is the current craze from a Brand point of view.	**53.1%**	20.4%	**46.9%**	79.6%	66%
D7	If 2 Smartphone's had the same features I would choose the Smartphone that is known for Quality over being the current craze from a Brand point of view.	28.3%	**79.5%**	**71.7%**	20.5%	61%
D8	If 2 Smartphone's had the same features I would choose the Smartphone that is known for Reliability over being the current craze from a Brand point of view.	26.4%	**82.7%**	**73.6%**	17.3%	73%
D10	If 2 Smartphone's had similar features I would choose the Smartphone that has just come out with a new breakthrough innovation/feature, over one that is the current craze (Everyone wants one).	28.3%	**63.2%**	**71.7%**	36.8%	61%

This finding is interesting from the point of view that it adds an additional perspective to the Generation-Y cohort and suggests that there may be a further split within this generation where behaviour becomes increasingly divergent. This is supported by the view of Haytko, Philips and Noble (2008), who stated that as Generation-Y matures, their values and beliefs converge with those of Generation-X, whereby the mid-Generation-Y consumers will have similar motivations for purchases as current Generation-X consumers. A key trait of Generation-X is that of practicality, which appears to be supported by the practical attribute choices of the older 25-34 year Generation-Y age group and the subsequent divergence of importance on brand.

There is a strong relationship between reliability, quality and innovation. These implicit attributes speak to the factors of function, i.e. the longevity of the product. Based on the findings these implicit attributes appear to be more attractive to the older cohort of Generation-Y.

The findings suggest that product developers should focus on fulfilling practical needs such as innovation, quality, reliability, and flexibility if targeting the latter cohort of

Generation-Y (25-34 year olds), as opposed to brand specific factors for 17-24 year olds.

6.1.3.] Generation-Y and the impact of a fast paced lifestyle and need for instantaneity

Proposition Three [P3]: Generation-Y consumers are likely to choose a product that satisfies the need of instant gratification by choosing a Smartphone that excels in processor speed and responsiveness

A selection of 46 Smartphone attribute levels was posed to respondents from which to choose and rank their top 12. The 46 attribute levels formed part of nine attribute types, as discussed in Chapter two. The self explicated method of conjoint analysis was utilised to analyse respondent choices and correctly order attribute level and type according to aggregate feedback. The reason respondents were given such a large expanse of attributes was to ensure adequate coverage of the majority of the Smartphone features.

Generation-Y has been classified as individuals who require instantaneity with particular emphasis on instant gratification (Hyllegard *et al.*, 2011). Due to research depicting this trait, the attribute type 'speed' was made up of three attribute levels, namely processor speed, application response time and random access memory (RAM), which relate to fulfilling the need for instant gratification in Smartphone tasks by allowing the Smartphone to provide feedback to user requests spontaneously. After the application of the self explicated conjoint analysis on the data, results revealed that only 'fast processor speed' appeared in the top 12 at rank seven, with RAM and responsive application control at 16 and 20 respectively. This is a positive result, which demonstrates that 'speed' - particularly processor speed - is important to Generation-Y Smartphone consumers, and should be focused on as this is an influence in the purchase process.

Although RAM and responsive application control ranked at 16 and 20, of which only 23% and 18% of respondents chose respectively, a favourable 'utility sum' was shown amongst all attributes, which means that the 23% and 18% that did choose the attributes rated them extremely highly against other attribute levels which were chosen by a greater number of respondents. This 'utility sum' demonstrates the level of importance in-terms of a "must have" attribute to respondents.

The fact that RAM and responsive application control ranked 16th and 20th could be explained by the possibility that respondents did not know what RAM meant, or that responsive application control is not directly relational to the device speed, but rather the resultant overall experience of speed from a usability point of view. If this is the case, then respondents chose the most relevant option that would satisfy their need.

The attribute type 'speed' was ranked fifth amongst the nine types of Smartphone attributes. This again shows that speed is an important attribute in Smartphone choice and something that consumers clearly consider. A further three questions were posed to respondents to choose between speed and superior display, superior camera, and current brand craze. Results showed that respondents favoured speed in all three questions, where speed was ranked above camera and display, which do appear in the top 12 attributes. This is consistent with Cabral (2011), who found that the common idea is that Generation-Y individuals have an innate need for information availability, accessibility and instantaneity.

This further solidifies the proposition that Generation-Y consumers would most likely choose a Smartphone that excels in processor speed, which is supported by the thoughts of Constantine (2010), who stated that Generation-Y was born into a world of instant satisfaction, where needs are serviced spontaneously and where information is available at their fingertips.

Their world is characterised by fast paced change, abundance and a wireless society where global boundaries have been blurred (Hwa *et al.,* 2011). It is this fast paced change that drives the behaviour and expectations of Generation-Y consumers to expect instant satisfaction from their products. Hence from the data we can conclude that the attribute type speed and its attribute levels - particularly processor speed - is critically important in the design and marketing of a Smartphone.

6.1.4.] Generation-Y and the impact of social networking

Proposition Four [P4]: Generation-Y consumers are likely to choose Smartphones which have attributes that are focused on facilitating their social networking needs.

Chapter two highlighted the importance of social networking for Generation-Y consumers from a number of facets, namely information sharing, connecting with peers, social responsibility, social consciousness and the dependency on interconnectedness due to being brought up in a world built on communication and networking, where the advent of social networking such as Google+, Facebook, MySpace, SecondLife, YouTube, Twitter, and LinkedIn, amongst others, has led to a dependency on interconnectedness (Hughes, 2008).

The results of the data gathering on this topic revealed that social networking is the number one attribute in terms of 'have to have' importance on a Smartphone for Generation-Y consumers. A high percentage of the chosen attribute levels (four) relating to the attribute type 'social networking' appeared in the top five of the 12 chosen attributes. Instant messaging had the highest utility, followed by 'email access', 'internet browsing', and 'access to social media'. These four attributes also had the largest number of respondents choosing them.

Table 54: Proposition four – Social Networking top five attribute levels

Attribute Type	Attribute level	N	Utility Sum	Position
Social Networking	Instant messaging	160	13952.10	**1**
Social Networking	Email access	163	13402.91	**2**
Social Networking	Internet browsing	143	12615.09	**4**
Social Networking	Access to social media	136	12425.90	**5**

Open architecture and MMS were ranked 25th and 37th with only 21 and 59 respondents having chosen them, however these anomalies could be explained by the fact that MMS is an outdated technology which has been replaced by other means of data messaging, hence this need is satisfied by another attribute. Open architecture is a feature that is understood by a smaller population, particularly the technical user group, hence the high rank could be explained through the smaller user group that understood this attribute.

The attribute type 'social networking' was ranked first out of the nine. This reflects the level of importance in the decision-making process of Generation-Y consumers. The findings are representative of the supporting literature which has profiled Generation-Y individuals as individuals who desire to be connected to their peers and the internet (Williams & Page, 2010). They rely heavily on social influence in the decision-making process when purchasing a good or service (Hyllegard *et al.*, 2011).

Table 55: Proposition four – Social networking attribute type rank

Attribute Type	Utility Sum	As a percentage of Total Utility	Position
Social Networking	55461	27%	**1**

The common idea that has surfaced is that Generation-Y individuals have an innate need for information availability, accessibility, instantaneity, and connectedness; they are unknowingly addicted to social networking and feel the need to be connected to their peers (Cabral, 2011). This corroborates the findings discussed and shows that marketers and product designers should focus on facilitating these needs through enhanced social networking attributes. The Smartphone cannot be viewed as a mere communication device but more as one which assists Generation-Y's lives to be integrated into their social circles.

6.1.5.] Generation-Y and the impact of excitement created via innovation on brand strength

Proposition Five [P5]: Generation-Y consumers are likely to choose a product that has a breakthrough innovation/s that has been mastered and released in the product, or where hype has been made

Innovation, as stated by Milenkova (2012), adds to the strength and attractiveness of a brand and is required to support the customer's perception of it.

Analysis of the four questions regarding innovation and product excellence yielded significant results with P-Values < [0.005], and with deviations from the mean of three, which revealed strong results suggesting that innovation is seen as popular choice and major influence amongst Generation-Y.

The first question, "Smartphone device brand response to breakthrough innovations (is known to master specific innovations)", revealed that respondents are highly influenced by brands that master specific innovations, thereby creating value through the user's experience of the particular attribute. Although most understand that innovation is required to drive long-term growth, especially in complex industries such as the technology industry, Khan and Hyunwoo (2009) suggested that one of the main reasons for failure of innovation diffusion is due to consumer resistance. Consumer adoption is dependent on a number of factors, the most critical being the psychological factor of how they view innovativeness. Hence the finding does suggest that respondents look for innovations that have been mastered by a particular brand, an example being the touch screen capability which has been mastered by Apple.

The second question, "Smartphone device brand is seen as a market leader in specific technologies", revealed that respondents value brands that exhibit excellence in their product from a product leadership point of view. This finding is supported by Milenkova (2012), who stated that it is important that the innovations be meaningful to the consumer, enough so as to alter their behaviour and loyalties. Innovation is at the forefront of Generation-Y agendas, and it is the reflection of a progressive company which adds to the cool factor of the brand.

The third question, “Smartphone device brand shows signs of longevity”, revealed that respondents are influenced by a brand that shows signs of longevity, which thereby lengthens their investment in the chosen Smartphone. Longevity is also testament to a brand that is progressive and focused on continual improvement to stay relevant and in demand.

The last question, “Smartphone brand is known to release a new innovation in every version release”, showed a positive result with respondents citing this as a major influence. This suggests that respondents want to be continually surprised with new interesting developments in the Smartphone to keep them interested. Milenkova (2012) suggested that when a brand name begins to innovate or continually innovates, this adds to the strength of the brand and its overall attractiveness of the company and its products.

The analysis was taken further to investigate whether age played a role in the respondents’ choices above. Interestingly, although both the 17-24 and 25-34 year age groups within Generation-Y favoured all questions, the 17-24 year age group was influenced by continual innovation, product leadership and innovative leadership to a greater extent than the 25-35 year age group. Furthermore, the 25-34 year age groups were influenced by brand longevity to a greater extent than the 17-24 year olds. This finding is interesting and does further strengthen the notion that there is an additional split within the Generation-Y cohort.

The results found were both positive and support the proposition, and it is thus suggested that design brands should focus and invest in research and development and building up a competence to master breakthrough innovations, whether in-house or externally developed, as this is a major influence amongst Generation-Y consumers.

7] Chapter 7: Conclusion

7.1.] Summary

This research brought to light the factors that influence Smartphone purchases amongst Generation-Y consumers, the Smartphone attributes in terms of preference rank, attributes utility in terms of attribute value, and attribute type. A number of valuable pieces of information have been confirmed and discovered, which may aid future Smartphone product design and the development of marketing strategies when building a Smartphone brand or marketing its product suite. Across the six propositions, all were accepted, where the data and the resultant data analysis supported all propositions to a significant level.

7.2.] Contribution to theory

Although no model or significant process has been developed, this research provides a valuable contribution to theory in terms of the mapping of generational traits to physical Smartphone attributes. This approach can be followed for the next generation that is Generation-Z or the so-called Homeland generation. The research provides a summarised body of knowledge regarding Generation-Y profile and behavioural traits and their impact on product choice.

It also aligns to the findings of the research done by WDSGlobal who researched the top ten features that are considered important by Generation-Y individuals in the USA and UK. These are compared to the findings for South Africa in the table below:

Table 56: Contrasting results across SA, USA, UK

South Africa	USA	UK
Instant messaging	**Camera resolution**	**Camera resolution**
Email access	**Internet browsing**	**Internet browsing**
Fluid touch screen	MMS	MMS
Internet browsing	**Email access**	**Email access**
Access to social media	**Touch screen**	**Touch screen**
Long life battery	**Instant messaging**	**Access to social media**
Fast processor	**Access to social media**	**Instant messaging**
High resolution display	Navigation / maps	Operating system
Large screen	App store access	App store access
Camera resolution	Operating system	Navigation / maps

The table above shows that there is a 60% match in the findings of the attributes that affect the purchase decision of Generation-Y individuals across South Africa, the United States and the United Kingdom. This adds confidence that the approach and results described in this paper can be applied across other continents and yield similar results.

Leading on from these overlaps the researcher proposes that the following attribute levels are significantly more impactful and accurate due to the commonality between regions. Table 57 below has been derived from Table 56's commonalities.

Table 57: Common attribute types and levels across SA, USA, UK

Common Attribute Levels	Attribute Type
Instant messaging	Social networking
Email access	Social networking
Fluid touch screen	Screen
Internet browsing	Social networking
Access to social media	Social networking
Camera resolution	Camera

This shows a common theme in that the social networking attribute type, which is derived from the four attribute levels pertaining to social networking, is popular

amongst Generation-Y individuals across continents, and is thus at the forefront of Generation-Y thinking and decision-making when it comes to Smartphone attributes.

7.3.] Limitations of the study

Due to the time frame for the delivery of the thesis, there was a limitation on the breadth of research possible, as well as the sample size that could be acquired and analysed. A larger sample for this study would yield a greater diversity amongst the Generation-Y age group, that being each year within the age band. Furthermore, the study was limited to the staff of one professional organisation in the financial services sector, and is hence not reflective of the diverse general population of Generation-Y consumers in different industries and walks of life.

The study was based on participants from South Africa and is thus reflective of the impact and level of technological advancement in this region. Furthermore, the previous research based on profiling Generation-Y and their experiences - although generalised - was not entirely reflective of the social standpoint within South Africa. This research is reflective of the South African business market as it was undertaken at a blue chip firm in the mainstream business district of Sandton, so although this research is informative of Generation-Y influences in this area, how it is utilised elsewhere should be understood in context of the environment such as economic state, job security, income levels, etc.

The research was focused on business professionals who were deemed to have a sufficient level of income to afford a Smartphone; the particular limitation resulting from this was that the research is not reflective of individuals with less disposable income.

Due to the relative infancy of the Smartphone industry there has not been sufficient research into the attributes of Smartphones, hence general Smartphone attributes were elicited from popular Smartphones on the market at the time of the study and with assistance from technology websites. Findings further relied upon the interpretation of the researcher throughout the process.

Price was not used as a factor, however this would be beneficial in future studies which would then give patterns in behaviour and allow for a comparative analysis between those and this study.

7.4.] Managerial implications and recommendations

This research is valuable to both product designers and marketers. The aim of the research was to understand why Generation-Y consumers choose the Smartphones that they do, which was satisfied through the literature review and data analysis. It provides detailed insight into the behavioural makeup of the Generation-Y cohort and their decision-making processes.

This research is important due to the current flux in this young industry. Technological advancement is occurring at a rate where it is difficult to sustain an edge over competitors if a new product release fails to excite or match consumer expectations. The study assists managers in understanding the impact of generational change and to acknowledge the stark difference between Generation-Y and older generations.

Marketing managers can use the findings to develop marketing strategies focused on Generation-Y and the implied age split of 17-24 and 25-34 within this cohort. Marketing campaigns can be geared towards the beliefs and values of Generation-Y, whilst keeping in mind the priority of attributes that matter to this generation. Of particular interest would be the findings regarding their opinion on brands and implicit attributes they are attracted to. This would help in focusing energy on building brand attributes that will add to the brand equity.

Product managers would find the information regarding attribute choice and rank valuable. This would allow product design patterns to reflect consumer choice generically according to respondent feedback. Amongst the myriad of attributes, developers could release a suite of Smartphones focused on different aspects of Generation-Y needs. Furthermore, what is apparent is that the Smartphone is not a mere communication device, but rather an extension of one's persona, hence product designers could gear development toward greater customer centricity.

The findings of the research can be applied to business from a marketing point of view, where management can utilise the fact that social networking is the number one influence amongst Generation-Y, hence they can be easily reached via this means. The key testament, however, is the understanding of the level of impact that social and economical influence has on moulding a generation in terms of thought, experience and influence.

These learnings can also be applied by managers in understanding Generation-Y in the workplace and their responses to technology. One can appreciate that Generation-Y, being immersed in the social networking world, would seek points of contact during working hours. Furthermore their need for instant gratification could assist employers in creating the ideal workspace to get the best out of their Generation-Y staff.

7.5.] Suggestions for future research

This research has opened up a number of possibilities of study regarding both Generation-Y and Smartphones. Proposition two regarding brands brought to light that there is a possibility that there is a further split within the Generation-Y cohort, that being the 17-24 and 25-34 age group. Future research could explore whether there are significant differences between the two to warrant deeper segmentation in marketing strategies and product design.

This study could be replicated in other countries to explore the similarities between correspondent responses and to ascertain the level of effect social influence has on the sample. The sample could be extended to be inclusive of a more diversified set of respondents, for example, small, medium and large enterprises; gender diversity; and income diversity.

The research could determine the impact that price has on respondent's decision-making process in terms of attributes of influence with price as a determinant. Thereafter a comparison between those results and these could be performed to understand whether price does affect attribute combinations.

This study could explore the detailed aspects of each attribute type that is the full extent of attribute levels that make up a particular attribute type. This would add greater value in terms of a deeper understanding of what users are looking for and could also be extended to user types, that is, profiling individuals as a type and ascertaining what attribute combinations fit a particular type, for example business, student, fully employed, partially employed, hobby, education, and/or occupation etc.

Future work could also explore the real impact of brand on individuals and what they identify with. This could also be applied to personal profiles, along with a more granular

breakdown of age. This would be useful to determine as it would aid in the development of the brand through the choice of attributes that individuals identify with.

7.6.] Conclusion

The Smartphone industry is one which is extremely competitive, and which has yet to normalise from a product leadership and brand leadership point of view. It is clear that brand does play an important role in the game of Smartphone demand, however it is the notable innovations which create hype in the market. The standard design of the handheld is being continually challenged by innovative designs, from flip and slides to touch, and as of recently, Google Goggles has a vision of redefining the traditional paradigm of a Smartphone being held in the hand.

Smartphones are not cheap and are a considerable cash investment to the regular user, and being an item that many view as a fashion accessory or extension of themselves, they are attracted to items that are closely aligned to their needs. Being an innovation-led industry, a question that does arise is, does customer centricity play as big a role than continual paradigm shifts to drive radical innovation? In the researcher's opinion, in the future what may be seen is customer-led development which ties customer centricity via tailor-made devices for the individual and radical innovations to satisfy these.

In conclusion, Generation-Y Smartphone consumers in the South African context are influenced by brands which satisfy a brand image perception of 'in fashion' and cool. The image of the chosen brand should be progressive and known for excellence. Generation-Y consumers are known to be brand conscious but not brand loyal, hence it is important that brands stay relevant and continue to stimulate Generation-Y consumers' needs and expectations.

Speed is a distinguishing attribute as it satisfies a hunger for spontaneous results. This trait has being built over the years of Generation-Y's childhoods where CPU processor speed and experience has increased exponentially, and where information availability has fuelled their need for instant gratification from their electronic devices. Generation-Y consumers are likely to choose a product that satisfies the need of instant gratification by choosing a Smartphone that excels in processor speed and responsiveness, or other which is directly relevant to speed and that fulfils the need.

Hence Smartphones that are seamless in response and processing capability would be favoured against competitor brands that do not offer the same level of service.

They are also likely to choose Smartphones which have attributes that are focused on facilitating their social networking needs and that have breakthrough innovation/s that has been mastered/released in the product, or where hype has been made.

Generation-Y consumers are a fickle cohort and the successful design of a Smartphone is dependent upon the understanding of this generation, followed by an understanding of how their behavioural traits can be mapped to product development via attribute identification. As technological advancement continues on the exponential development path, and as social constructs support consumers to become ever more informed, the need for companies to match user requirements increases. Hence studies such as this provide valuable insights into how generational influence and uniqueness results in differing consumer requirements, as opposed to blanket target market approaches.

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9] Appendix A: Ethical Clearance

Consent Statement for Interviewee

Date

Dear Company-X employee,

RE: Informed Consent Letter

I am conducting research on product switching and the associated attributes, and I am trying to achieve the following three research objectives:

1. To understand the priority of attributes that affect the Generation - Y business consumer decision making process in choosing a competitor product from a smart phone perspective

2. To understand the attributes that product designers should focus on when designing a product in the highly competitive and saturated Smartphone market

3. To identify attributes that add strength to the perceived brand value which aid in the switching process

The interview will last a maximum of 15 minutes. Your participation is voluntary and you can withdraw at any time without penalty. All data will be kept confidential. If you have any concerns, please contact me or my supervisor. Our details are provided below.

Researcher Name: Raven Jainarain
Phone: +27 71 8915451
email: email4raven@gmail.com

Research Supervisor Name: Michael Goldman
Phone: +27 82 332 0577

email: goldmanm@gibs.co.za

Interviewee Name:
Signature:

Consent form from Company-X

05 July 2012

Mr Raven Jainarain
C/o Company-X Specialist Bank

Dear Raven

MASTERS DEGREE THESIS RESEARCH

This document serves as confirmation that Company-X will allow you to conduct research on products attributes that cause Generation-Y customers to switch brands in the smart phone industry. Research should take the form of interviews and the completion of questionnaires with selected employees from the organisation only.

Both the interview process and questionnaires should only be used to uncover the products attributes that cause Generation-Y customers to switch brands in the smart phone industry.

Company-X participation is voluntary and reserves the right to withdraw at any time without penalty.

Yours sincerely,

Melanie Kingwill
Team Leader
For and on behalf of Company-X Bank

10] Appendix B: Questionnaire

ATTRIBUTES THAT INFLUENCE GENERATION-Y CONSUMER CHOICE IN SMARTPHONES QUESTIONAIRE

CONSENT LETTER

My name is Raven Jainarain, I am conducting research on "*Understanding the attributes that influence Generation-Y consumers choice in Smartphone's"*.

The questionnaire will take approximately **(<=10 minutes)** to answer. Your participation will help the researcher identify what attribute's influence Smartphone choice. Your participation is voluntary and you can withdraw at any time without penalty.

Be assured this study is for research purposes only and **you** will remain **confidential**. At no time will you be asked to purchase anything, and no one will contact you as a result of your participation.

If you have any concerns, please feel free to contact me or my supervisor. Our details are provided below.

Researcher Name: Raven Jainarain
Email: remail4raven@gmail.com
Phone: 071 891 5451

Research Supervisor Name: Michael Goldman
Email: goldmanm@gibs.co.za
Phone: (011) 771 4127

Section A: Profile Questions: **[8]**

SMARTPHONE: Cellular Phone with and operating system, which can run apps, e.g. like excel, whatsapp, angry birds.

1) What is your Gender?

M		F	

2) What is your age?

17-18		19-24		25-34	

3) How many Smartphone's do you own?

1	2	3	> 3

*If you selected **1**, Please **skip** Question 4 below.*

4) Do you make **use** of more than one Smartphone?

Y		N	

*If **Yes**, please select **only** the most relevant reason from the list below as to why do you use your favorite **two** Smartphone's out of all that you use. If **No**, please move on to Question 5.*

No Reason		Other		Like both brands		Like both Operating Systems	
Like features offered in both		Wanted to test out both					

If other selected above, please write down the reason in the line provided below:

_____

5) What is your current Smartphone's brand? *As above, if you use more than one Smartphone's, state your favorite **two** brand names only as chosen above, in Question 4, in the line provided below:*

_____

6) How long have you had your current, most used Smartphone?

0-2yrs		2-4yrs		> 4yrs	

7) How many Smartphone's have you owned since your 1st Smartphone purchase?

N/A		1		2		3		4		5		6		> 6	

If more than one please specify the brands below:

_____

If any were repeat brand purchases e.g. purchased Apple 3, then Apple 4, then Apple 4s please state the brand names that were repeat purchases, below:

_____

If there were repeat brand purchases, please give a short reason why, below:

_____

8) How often do you change your Smartphone in a 2 year period?

		2x		> 3x	
0x		1x			

Specify the reason for the change:

- Contract expiring/ expired or
- New cool feature has been released on a Smartphone?
- Other

If other, Please specify why _____

Section B: Explicit Feature Influence Questions: **[3]**

1) Please **read through the table first**, then tick your ***12 most important features to you on a Smartphone*** from the list provided on *column* ***A***:

	A	B	C		A	B	C		A	B	C
E.G. Fluid Touch Screen	✓										
Fluid Touch Screen				Slim in Size				Large Capacity Fixed Memory			
High Resolution Display				Attractive Design				Memory Card Slot			
Large Screen				Button placement assists gaming				Long Life Battery			
Hotspot Capable				Bluetooth Capable				Wi-Fi Capable			
Borderless Full Screen Display				Headset placement assists comfort				Compatibility with other Devices			
Dual Camera				Gorilla Glass (scratch proof)				Inter Device Connect ability			
Camera Resolution				Bright Backlight				e.g. Bluetooth			
Access to Social Media/ Networks				Durable Quality Materials used in Design				Notifications and Alerts (sounds)			
MMS				Easy to navigate User Interface				Gesture Commands			
Email Access				Accurate Touch Keyboard Input				Customizable Display			
Instant Messaging				Multiple Desktops				Navigation/Maps			
Voice Command Capable				Responsive application control				Radio			
Widget Capable				Fast Processor				Loud Speakers			
Internet Browsing				Open Architecture-(can share media)				Hi-Definition Graphics Capable			
App Store Access				Operating System Type (e.g. Android, iOs)				App store has all popular apps available for its operating system			
A lot of RAM				Internet				Widget Capable			

2) Please rank the 12 chosen features above, from **most important** to **least important**, by u*sing a* ***1 for MOST important*** *up to* ***12 for LEAST important***, in the above table in *column* ***B***.

E.G

	A	B	C		A	B	C		A	B	C
E.G. Fluid Touch Screen	✓	2						**E.G. Large Screen**	✓	5	

3) Please distribute **100 points** across the 12 chosen features above, **in order of importance in terms of have to have**, in the above table in *column* ***C***.

E.G

	A	B	C		A	B	C		A	B	C

E.G. Fluid Touch Screen	✓	2	5					**E.G. Large Screen**	✓	5	65

Section C: Implicit Factors of Influence Questions: **[1]**

1) Please rate the following **factors of influence**, when **choosing** a **new** Smartphone, by **first choosing the level of influence** and then rating its **importance** to you by using a ***1 for EXTREMELY Low*** and ***5 for EXTREMELY HIGH***.

So:

FIRST - Choose the level of influence

SECOND – For each line, rate its importance to you in terms of a: (1 for Extremely Low, to 5 Extremely High)

		Level of Influence				
No	**Factors of Influence**	**No Influence**	**Small Influence**	**Average Influence**	**High Influence**	**Major Influence**
E.G.	Smartphone Device Brand *(is known as the trendiest brand)*				**4**	
	I am influenced when:					
1	Smartphone Device Brand *(is known as cool)*					
2	Smartphone Device Brand *(is known for quality/reliability)*					
3	Operating system Brand *(is known as cool)*					
4	Operating system Brand *(is known for quality/reliability)*					
5	Smartphone Device Brand *(is known for being innovatory)*					
6	Operating system Brand *(is known for being innovatory)*					
7	App store *(known for continual flow of new apps in the store)*					
8	App store *(known for quality apps that can be trusted)*					
9	Smartphone Device Brand response to breakthrough innovations *(is known to master specific innovations)* *E.g. bug free, and responsive touch screen, camera resolution i.e. they are the defacto standard*					
10	Smartphone Device Brand is seen as a market leader in specific technologies e.g. *(nano-technology, graphics, screen resolution)*					
11	Smartphone Device Brand is seen as attempting to integrate into other aspects of the users life, e.g. *(Apple TV, Sony Sync, Samsung Sync)*					
12	Smartphone Device Brand shows signs of longevity – i.e. (*Investment in product and brand will be prolonged-sense of security is felt)*					
13	My Smartphone is customizable, e.g. *(I can choose feature I want)*					
14	My Smartphone reflects my personality					
15	I can distinguish myself via my Smartphone					
16	Smartphone brand is known to release a new Innovation in every version release					

17	I wish to have been involved in the design of a Smartphone via Crowd Sourcing					

Section D: Consumer Choice Questions: [24]

Note: *When making a decision on whether to choose agree or disagree, please can you **Ignore Price**, from your decision making process. I.e. imagine that price was not a factor if the question speaks about a single Smartphone, or if the question speaks about two Smartphone's, imagine both Smartphone's are priced equally.*

No	Questions	Agree	Disagree
1	If 2 Smartphone's had the same features I would choose the Smartphone that is the **current craze** from a **Brand** point of view.		
2	If 2 Smartphone's had the same features I would choose the Smartphone that is the **current craze** from an **operating system** point of view.		
3	If 2 Smartphone's had the same features I would choose the Smartphone that has a **more flexible operating system** over the one that is the **current craze** from a **Brand** point of view.		
4	If 2 Smartphone's had similar features I would choose the Smartphone that has just come out with a **new breakthrough innovation/feature**.		
5	Brand plays an important role in me choosing a Smartphone		
6	I specifically look to ensure that a Brand is known as an **Innovator**		
7	If 2 Smartphone's had the same features I would choose the Smartphone that, is known for **Quality** over being the current craze from a Brand point of view.		
8	If 2 Smartphone's had the same features I would choose the Smartphone that, is known for **Reliability** over being the current craze from a Brand point of view.		
9	The quality, reliability of the product **doesn't matter to me**, what matters is that the Brand is the current craze. (Everyone wants one)		
10	If 2 Smartphone's had similar features I would choose the Smartphone that has just come out with a **new breakthrough innovation/feature**, over one that is the **current craze** (Everyone wants one).		
11	I would rather choose a Smartphone that is **fast and responsive** over one that is the **current Craze** but not as fast and responsive.		
12	I would rather choose a Smartphone that has a **superior camera** over one that is **fast and responsive.**		
13	I would rather choose a Smartphone that has **superior display capabilities** over one that is **fast and responsive.**		
14	I would rather choose a Smartphone that has **superior display capabilities** over one that has a **superior camera**.		
15	I would rather choose a Smartphone that has a **mature app store** over one that is the **current craze** from a brand point of view.		
16	I would rather choose a Smartphone device made with **Earth Friendly materials**		
17	I would rather choose a Smartphone device that is known to **integrate easily with all PC operating systems**		
18	I would rather choose a Smartphone that is **easy to use**, thereby allowing me to **perform tasks faster**		
19	I would rather choose a Smartphone provider that allowed me to **choose the features I want** vs those I **don't**, hence me creating a **Smartphone that suits me**		
20	I would rather choose a Smartphone that is strong from a **Networking point of view, i.e. Wi-Fi, Hotspot, Bluetooth, NFC enabled** over one that has a **superior camera**.		

21	I would rather choose a Smartphone that is strong from a **Networking point of view, i.e. Wi-Fi, Hotspot, Bluetooth, NFC enabled** over one that has a **superior display capabilities**.		
22	If a Smartphone designer **changes the user interface completely**, I would **welcome** the change.		
23	I welcome technological change, if a Smartphone designer **completely changes their Smartphone range in terms of usability** – I would welcome the change.		
24	I find **technological change** exciting and interesting.		