BLACK GENERATION Y STUDENTS' ENVIRONMENTAL CONCERNS, ATTITUDES TOWARDS GREEN ADVERTISING AND ENVIRONMENTAL BEHAVIOUR

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DECLARATION

I declare that:

"BLACK GENERATION Y STUDENTS' ENVIRONMENTAL CONCERNS, ATTITUDES TOWARDS GREEN ADVERTISING AND ENVIRONMENTAL BEHAVIOUR"

is my own work, that all the sources used or quoted have been identified and acknowledged by means of complete references, and that this dissertation has not previously been submitted by me for a degree at any other university.

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To whom it may concern

This is to confirm that I, the undersigned, have language edited the completed research of Costa Synodinos for the Master of Commerce thesis entitled: *Black Generation Y students' environmental concerns, attitudes towards green advertising and environmental behaviour.*

The responsibility of implementing the recommended language changes rests with the author of the thesis.

Yours truly,

Linda Scott

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ABSTRACT

BLACK GENERATION Y STUDENTS' ENVIRONMENTAL CONCERNS, ATTITUDES TOWARDS GREEN ADVERTISING AND ENVIRONMENTAL BEHAVIOUR

KEY WORDS: Green advertising, environmental awareness, black Generation Y students, South Africa

Green marketing is, in a sense, an oxymoron in that it merges the seemingly contradictory concepts of marketing, which focuses on facilitating and encouraging consumption, and environmental concern, which focuses on environmental conservation.

Green advertising represents an important marketing tool for communicating an organisation's green image and is the driving force behind fostering environmental awareness and environmentally friendly behaviour. As with any type of advertising, an important determinant of the success of green advertising is consumers' attitudes towards green advertising and corresponding environmental concerns and behaviour. The last decade has shown a staggering number of marketers targeting the green segment of the population with green advertising, with increasing green advertisementsmanufacturers are informing their customers about the pro-environmental characteristics of their products and services. Green advertising is an essential tool in an organisation's overall environmental marketing strategy; one which possibly leads to achieving superior performance and assists in creating a sustainable competitive edge.

An in-depth understanding of the relevant consumer behavioural aspects of a target market is tantamount to formulating successful marketing strategies. This holds true with the formulating of green marketing advertising strategies, which aim at encouraging consumption in an environmentally sustainable manner. There is a dearth of published literature on the South African Generation Y's consumer behaviour in general and none that specifically focuses on the environmental concern, attitudes towards green advertising

and environmental behaviour of the significantly sized black Generation Y cohort. The Generation Y cohort is defined as individuals born between 1986 and 2005. In terms of South Africa, Generation Y individuals accounted for 40 percent of the South African population, with black Generation Y individuals making up 84 percent of this generational cohort. In addition, the black Generation Y cohort of South Africa makes up approximately 33 percent of the whole population, resulting in a highly attractive market segment. Individuals attaining tertiary qualifications are of particular interest to marketers since they are likely to enjoy higher earnings and a higher social status, which together is likely to make them opinion leaders amongst their peers.

The primary objective of this study was to investigate black Generation Y students' environmental concern, attitudes towards green advertising and environmental behaviour within the South African context.

The target population of the study was defined as full-time black Generation Y students, aged between 18-24 years, enrolled at South African registered public higher education institutions (HEIs).

The sampling frame comprised the 23 registered South African public HEIs. Using a judgement sampling method, this was narrowed down to four HEIs located in the Gauteng Province - two of which are country-based and two of which are city-based. For this study, a convenience sample of 400 full-time black Generation Y students who were enrolled at these four South African HEIs during 2012 was drawn.

The relevant primary data was obtained using a self-administered questionnaire. Lecturers at each of the four HEIs were contacted and requested to distribute the questionnaire to their students either during class or after class. The self-administered questionnaire was hand delivered to these lecturers.

The questionnaire requested respondents to indicate on a five-point Likert scale the extent of their agreement/disagreement with items designed to measure their environmental concerns, their attitudes towards green

advertising as well as their current environmental behaviour patterns. In addition, the students were asked to provide certain demographic data.

The findings of this study indicate that South African black Generation Y students are environmentally concerned, have a positive attitude towards green advertising and report behaving in a pro-environmental manner. Previous research found gender to be a significant factor in displaying concerns for the environment. However, this study determined that gender played no significant role towards the black South African Generation Y cohort environmental concerns and attitudes. Similarly, the study found no significant difference between black Generation Y students who were based at city HEIs and black Generation Y students who were based at countryside HEIs.

Insights gained from this study will help both marketing academics and practitioners understand current black Generation Y consumer attitudes towards environmental concerns, green advertising attitudes and the significance of their pro-environmental behaviour.

OPSOMMING

SWART GENERASIE Y STUDENTE SE OMGEWINGSBEWUSTHEID, HOUDINGS TEENOOR GROEN ADVERTENSIES EN OMGEWINGSGEDRAG

SLEUTELWOORDE: Groen advertensies, omgewingsbewustheid, Swart Generasie Y studente, Suid Afrika

Groen bemarking is, in ‘n sekere mate, ‘n oksimoron aangesien dit twee teenstrydige konsepte kombineer naamlik bemarking, wat fokus op die fasilitering en aanmoediging van verbruik, en omgewingsbewustheid, wat weer omgewingsbewaring aanspreek.

Groen advertensies is ‘n noodsaaklike bemarkingsgereedskap om sodoende ‘n onderneming se groen beeld uit te dra en is die dryfkrag om omgewingsbewustheid en omgewingsvriendelike gedrag te bevorder. Soos met enige soort advertensie is die verbruiker se houding teenoor groen advertensie en ooreenkomstige omgewingsbewusthede en gedrag noodsaakik in die sukses van groen advertensie. . Die laaste dekade spreek van ’n verbasende toename in bemarkers wat die groen gedeelte van die populasie met groen advertensies nastreef, deur ‘n toenemende hoeveelheid groen advertensievervaardigers wat verbruikers inlig oor die omgewinsgesindheideienskappe van hulle produkte en dienste. Groen bemarking is ’n belangrike instrument in ’n organisasie se oorkoepelende omgewingsbemarkingstrategie, wat moontlik aanleiding gee tot die uiteindelike skepping van ‘n volhoubare kompiterende grens in die mark.

’n Diepgaande begrip van relevante verbruikers gedrag van enige teikenmark is noodsaaklik in die formulering van suksesvole bemarkingstrategieë. Dit is ook waar ten opsigte van groen bemarkingstrategieë wat poog om volhoubare omgewingsvriendelike verbruik aan te moedig. Daar is ‘n tekort aan gepubliseerde leesstof oor die Suid Afrikaanse Generasie Y se verbruikersgedrag in die algemeen en geen wat spesifiek fokus op die omgewingsbewustheid, houdings teenoor groen advertensies en

omgewingsgedrag van die aansienlike groot swart Generasie Y groep nie. Die Generasie Y groep word gedefineer as individue wat tussen 1986 en 2005 gebore is. Met betrekking tot Suid Afrika, maak Generasie Y omtrent 40 persent van die totale populasie in die land uit waarvan ongeveer 84 persent van die groep swart is. Verder beteken dit dat die swart Generasie Y in Suid Afrika ongever 33 persent van die totale populasie uitmaak, wat dit ‘n hoogs aantreklike teikenmakr maak. Individue met tersiêre kwalifikasies is vir bemarkers van besonderse belang aangesien hulle uiteraard moontlik ‘n hoër inkomste sal verdien en uiter aard ook in hoër sosiale kringe sal beweeg, wat gesamentlik moontlik sal beteken dat hulle gesien word as opinie leiers tussen hulle eweknieë.

Die primêre doel van hierdie studie was om die swart Generasie Y studente se omgewingsbewustheid, houdings teenoor groen advertensies en omgewingsgedrag in die Suid Afrikaanse konteks te ondersoek.

Die teiken populasie van die studie was gedefinieer as voltydse Generasie Y student, tussen die ouderdomme 18-24 jaar wat geregistreer is by Suid Afrikaanse hoër onderwys instansies.

Die steekproef raamwerk het bestaan uit die 23 geregistreerde Suid Afrikaanse hoër onderwys instansies. Deur gebruik te maak van ’n beoordelings steekproef metode, is hierdie studie beperk tot vier hoër onderwys instansies in die Gauteng provinsie – waarvan twee in die stedelige gebied is en twee in die platteland. Vir hierdie studie, is ‘n gerieflikheids steekproef van 400 voltydse swart Generasie Y student wat by hierdie vier Suid Afrikaanse hoër onderwys instansies geregistreer is, getrek.

Die toepaslike primêre data is verkry deur gebruik te maak van ‘n self-geadministreerde vraelys. Dosente by elk van die vier hoër onderwys instansies is gekontak en gevra om die vraelyste aan hulle student te versprei gedurende klas of na klas. Die self-geadministreerde vraelyste is persoonlik aan die dosente gelewer.

Die vraestel het van die respondent vereis om, op ‘n vyf-punt Likert skaal, aan te dui tot water mate hulle saamstem of nie saamstem met die items wat

ontwerp is om hulle omgewingsbewustheid, hulle houdings teenoor groen advertensies en hulle huidige omgewingsgedragpatrone te bepaal. Die student is ook addisioneel gevra om demografiese data te verskaf.

Die bevindinge van hierdie studie dui aan dat die Suid Afrikanse swart Generasie Y student wel omgewingsbewus is, ‘n positiewe houding het met betrekking tot die bewaring daarvan. Hulle is ook ten gunste van groen advertensies. Vorige navorsing het getoon dat geslag ‘n beduidende impak het op omgewingsbewustheid. Alhoewel, hierdie studie het bepaal dat geslag nie ‘n noemenswaardige verskil maak by die swart Suid Afrikaanse Generasie Y groep se omgewingsbewustheid en houdings nie. Hierbenewens het hierdie studie bevind dat daar geen noemenswaardige verskil was tussen die stedelike en die plattelandse Y swart Generasie Y studente nie.

Informasie wat verkry is uit hierdie studie sal die bemarkings akedemici en bemarkers in die praktyk help om die huidige swart Generasie Y verbruiker se houdings teenoor omgewingsbewustheid en groen advertensies, asook die uniekheid van hulle omgewingsgesindheidsgedrag beter te verstaan.

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CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 INTRODUCTION

Green marketing is, in a sense, an oxymoron in that it merges the seemingly contradictory concepts of marketing, which focuses on facilitating and encouraging consumption, and environmental concern, which focuses on environmental conservation. The paradoxical combination of these two concepts is made possible through the social marketing concept's philosophy of sustainability (Peattie & Charter, 2003:727-728), which stipulates satisfying current consumers' needs and desires in a sustainable manner so as to ensure the standard of living of future generations (Peattie & Charter, 2003:727-728; Kotler, 2011:132). Kotler (2011:132) predicts that environmental issues will have an increasingly significant influence on the practice of marketing in terms of ensuring the availability and quality of natural resources for succeeding generations.

Environmental conservation is a topic of growing interest amongst policy makers, academics marketers, consumers and society in general (Sodhi, 2011:177). Environmental conservation covers a range of issues, including, but not limited to, environmental education programmes for the youth, the fight against climate change, conservation of freshwater and marine resources, carbon emission control, energy saving, recycling and the protection of wildlife. The widespread adoption of green marketing by organisations worldwide is largely the product of the combined effects of more stringent environmental regulations by governments, intensified pressure group activities (Kalafatis *et al.,* 1999:441; Leonidou *et al.,* 2011:6), increased media coverage of environmental issues, and the consequent increase in environmental awareness (Kalafatis *et al.,* 1999:441).

Even though the concept of green marketing attracted some interest in the 1970s, it was only in the late 1980s that it truly came into being (Kuzmiak, 1991:266; Peattie & Crane, 2005:358). Crane (2000:280) found an intense

and rapid growth in green literature in the 1990s. In addition, the 1990s witnessed an increase in environmental concern and awareness amongst consumers (Straughan & Roberts, 1999:558; Brown & Wahlers, 1998:39). The turn of the millennium saw rising consumer sensitivity concerning ecological issues and a move towards consumers adopting more environmentally friendly products and practices (Leonidou *et al.,* 2010:1319-1320). According to Leonidou and Leonidou (2011:73), interest in environmental conservation has never been as high as it is in the 2000s and this has caused a surge in attention to green marketing.

Green advertising represents an important marketing tool for communicating an organisation's green image and is the driving force behind fostering environmental awareness and environmentally friendly behaviour (Leonidou *et al*., 2011:6). As with any type of advertising, an important determinant of the success of green advertising is consumers' attitudes towards green advertising and corresponding environmental concerns and behaviour (Haytko & Matulich, 2008:6).

Banerjee *et al.* (1995:22) define green advertising as any advertisement that links environment issues with a service or product for the purpose of enhancing a green lifestyle, with or without spotlighting a service or product, and that portrays an environmentally friendly image. Chang (2011:23) concurs that green advertising constitutes advertisements that show products or services in an environmentally friendly manner, whether it be in the production process or in the features of the products and services, which conserve resources and energy. According to Banerjee *et al.* (1995:21), the last decade has shown a staggering number of marketers targeting the green segment of the population with green advertising, and manufacturers are informing their customers about the pro-environmental characteristics of their products and services with increased green advertisements. Leonidou *et al*. (2011:24) postulate that green advertising is an essential tool in an organisation's overall environmental marketing strategy; one which possibly leads to achieving superior performance and assists in creating a sustainable competitive edge.

In generational studies, today's youth are classified as Generation Y and includes those individuals born between 1986 and 2005 (Markert, 2004:21), which in 2012, puts them at eight to 27 years of age. In South Africa, in terms of race, the African portion of the country's Generation Y cohort (hereafter referred to as black Generation Y) accounted for approximately 84 percent of the South African Generation Y cohort and 33 percent of South Africa's total population of 50 587 757 in 2011 (Statistics South Africa, 2011). The significant size of the black Generation Y market makes them salient to marketers, including those engaged in green marketing.

1.2 PROBLEM STATEMENT

The environmental concern, attitudes towards green advertising and consequent environmental behaviour of South Africa's black Generation Y members significantly influences the current and future state of the South African environment, simply due to the sheer size of this cohort. According to Bevan-Dye *et al.* (2009:172), those with a tertiary qualification are likely to enjoy higher earnings, which generally translates into a higher material standard of living and, hence, higher consumption levels. In addition, given that graduates from higher education institutions (HEIs) typically have an elevated social standing within a given society, the student portion of this cohort is likely to have a significant influence on the current and future consumption habits of the wider South African black Generation Y market (Carnevale & Fry, 2001:8; Wolburg & Pokrywczynski, 2001:33; Schwalbe, 2009:63).

An in-depth understanding of the relevant consumer behavioural aspects of a target market is tantamount to formulating successful marketing strategies. This holds true with the formulating of green marketing advertising strategies, which aim at encouraging consumption in an environmentally sustainable manner. There is a dearth of published literature on the South African Generation Y's consumer behaviour in general, and none that specifically focuses on the environmental concerns, attitudes towards green advertising and environmental behaviour of the significantly sized black Generation Y cohort.

1.3 OBJECTIVES OF THE STUDY

The following objectives have been formulated for the study:

1.3.1 Primary objectives

The primary purpose of this study is to determine black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour within the South African context.

1.3.2 Theoretical objectives

The theoretical objectives formulated to develop the theoretical framework of this study are as follows:

- Conduct a review of the literature on environmentalism, environmental concerns and environmental behaviour.
- Review the literature on green marketing, with specific reference to green advertising, and its influence on environmental concerns and environmental behaviour.
- Review the literature on the consumer behaviour characteristics of the Generation Y cohort.

1.3.3 Empirical objectives

In accordance with the primary objective of the study, the following empirical objectives are formulated:

- Determine black Generation Y students' environmental concerns, attitudes towards green advertising and environmental behaviour.
- Determine the relationship between black Generation Y students' attitudes towards green advertising, their environmental concerns and their environmental behaviour.

- Determine whether black Generation Y students' attitudes towards green advertising influences their environmental concerns and environmental behaviour.

- Determine whether male and female black Generation Y students differ in their attitudes towards green advertising, their environmental concerns and their environmental behaviour.

- Determine whether black Generation Y students registered at city-based HEIs differ from those registered at country-based HEIs in terms of their attitudes towards green advertising, their environmental concerns and their environmental behaviour.

In line with these empirical objectives, the following hypotheses are formulated:

H_o1: Black Generation Y students do not have a positive attitude towards green advertising.

H_a1: Black Generation Y students do have a positive attitude towards green advertising.

H_o2: Black Generation Y students are not environmentally concerned.

H_a2: Black Generation Y students are environmentally concerned.

H_o3: Black Generation Y students do not behave in a pro-environmental manner.

H_a3: Black Generation Y students do behave in a pro-environmental manner.

H_o4: There is no relationship between black Generation Y students' attitudes towards the green marketing advertising and their environmental concerns and environmental behaviour.

H_a4: There is a relationship between black Generation Y students' attitudes towards the green marketing advertising and their environmental concerns and environmental behaviour.

H_o5: Black Generation Y students' attitudes towards green advertising do not influence their environmental concerns and behaviour.

H_a5: Black Generation Y students' attitudes towards green advertising do influence their environmental concerns and behaviour.

H_o6: There is no difference between male and female black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour.

H_a6: There is a difference between male and female black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour.

H_o7: There is no difference between country- and city-based black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour.

H_a7: There is a difference between country- and city-based black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour.

1.4 RESEARCH DESIGN AND METHODOLOGY

The study compromises a literature review and empirical study. Quantitative research, using the survey method, was followed in the empirical study. The empirical study follows a descriptive research design.

1.4.1 Literature review

In order to support the empirical study, a review of international as well as South African literature was conducted using secondary data sources that

included the Internet, textbooks, academic journals and online academic databases.

1.4.2 Empirical study

The empirical portion of this study comprises the following methodology dimensions:

1.4.2.1 Target population

The target population, relevant to this study, are the full-time black Generation Y students, aged between 18-24 years, enrolled at South African registered public HEIs. The target population is defined as follows:

- Element: Full-time undergraduate black Generation Y students
- Sampling Unit: South African registered public HEIs
- Extent: South Africa, Gauteng
- Time: 2012

1.4.2.2 Sampling frame

The sampling frame comprised the 23 registered South African public HEIs, as listed by Higher Education in South Africa (Higher Education in South Africa, 2011). Using a judgment sampling method, this sampling frame was narrowed down to four HEIs located in the Gauteng Province – two of which are country-based and two of which are city-based.

1.4.2.3 Sample method

A non-probability convenience sample of 400 full-time undergraduate black Generation Y students was used to conduct this study. Lecturers at each of the four HEIs were contacted and requested to distribute the questionnaire to their students either during class or after class. The self-administered questionnaire was hand-delivered to these lecturers.

1.4.2.4 Sample size

A sample size of 400 full-time students was selected for this study. This sample size is in the range of other studies of this nature, such as Straughan and Roberts (1999:564) (sample size: 235), Ali *et al.,* (2011:220) (sample size: 400), Rahbar and Wahid (2011:77) (sample size: 250), Leonidou, *et al*. (2010:1328) (sample size: 500) and, as such, is considered sufficiently large.

1.4.2.5 Measuring instrument and data collection method

This study used a structured, self-administered questionnaire to gather the required data. The questionnaire included existing scales used in previously published research.

In order to measure black Generation Y students' attitudes towards green advertising, a scale developed and validated by Haytko and Matulich (2008:4) was used. This scale has four dimensions that include cognitive and affective responses to green advertising (11 items), consumer responses to the companies and their products (13 items), consumer specific behaviours (four items) and moral/ethical impact of green advertising (six items).

Black Generation Y students' environmental concerns were measured using Minton and Rose's (1997:48) adapted version of the socially responsible consumption scale that was developed and validated by Antil and Bennett (1979). This scale comprises 16 items.

The environmental behaviour of black Generation Y students was measured using the 15-item scale of Haytko and Matulich 2008:4), to which a sixteenth and a seventeenth item, pertaining to littering, were added.

The questionnaire included a section designed to gather relevant demographical data from the respondents. In addition, the questionnaire included a cover letter outlining the purpose of the study and providing relevant contact details.

The questionnaire was piloted on a convenience sample of 50 students on a South African HEI campus that did not form part of the sampling frame, in

order to establish its reliability. Results of this pilot test were coded and tabulated.

The questionnaires were delivered to those lecturers at each of the HEIs included in the sample, who agreed to assist with the study. The questionnaires were then distributed to students who were requested to complete them during or just after class time.

1.4.3 Statistical analysis

The captured data was analysed using the Statistical Package for Social Sciences (SPSS), Version 20.0 for Windows. The following statistical methods were used on the empirical data sets:

- Reliability and validity analysis
- Descriptive analysis
- Significance tests

1.5 ETHICAL CONSIDERATIONS

The research study strove to comply with the ethical standards of academic research, which entails gaining permission from respondents, protecting the identities and interests of participants, as well as the guaranteeing the confidentiality of all information provided by participants. Participation in the survey was voluntary and no one was forced to partake in it.

1.6 CHAPTER CLASSIFICATION

Chapter 1: Introduction to the study

This chapter covers the introduction to the research study. It details the problem statement, the research objectives and the research methodology utilised in the study. This chapter concludes with the organisation and structure of the research study.

Chapter 2: Environmentalism and green marketing

In this chapter, a detailed literature review on green advertising, environmentalism and environmental concern is conducted. Environmentalism is defined and the drivers of environmentalism are discussed. Green marketing's history is described, defined, and its influences on environmental behaviour and concern emphasised. Generation Y cohort consumer behaviour patterns, as they relate to environmentalism, are also outlined.

Chapter 3: Research design and methodology

This chapter includes a discussion of the questionnaire design, preparation, coding and distribution. In addition, the target population, sampling frame, sampling method and sample size are outlined. The data analysis and statistical procedures used in the study are also discussed within this chapter.

Chapter 4: Results and findings

The study's findings are analysed, interpreted and discussed in this chapter.

Chapter 5: Conclusions and recommendations

This chapter provides a review of the entire study and provides conclusions observed from the study, together with the recommendations emanating from the findings of the study. Suggestions for further research are also given in this chapter.

CHAPTER 2

ENVIRONMENTALISM AND GREEN MARKETING

2.1 INTRODUCTION

This chapter provides a review of the literature concerning environmentalism and green marketing, and is set out in accordance with the theoretical objectives formulated in Chapter 1. Section 2.2 discusses the concept of environmentalism, which includes a definition of environmentalism, its background and history, the drivers of environmentalism, and environmental concerns and behaviour. Green marketing discussed in Section 2.3, includes a definition of green marketing, its background and problems associated with it. In addition, the factors to be considered when developing a green marketing strategy, as well as green advertising, are discussed. Section 2.4 discusses the target population of the study, namely the Generation Y cohort.

2.2 ENVIRONMENTALISM

The earth is being pushed to very brink of its capacity (Park, 2001:3). The degradation of the environment threatens the quality of human life and has the potential to undermine the resources needed to sustain life, including human life (Coleman, 2012:191). Ironically, much of the damage caused to the environment is due to the actions of humans, and environmentalism is a concept that the human race is now trying to come to terms with. While humans aim to control the means of their survival, they are simultaneously destroying the very life-support systems that maintain and sustain their existence (O'Riordan, 2002:454). Park (2001:3) adds that the planet is at risk because the human race has misused the earth's natural assets causing serious, and in some cases irreversible, damage to the life-support systems the earth offers. At the helm of the earth's environmental woes is the issue of climate change (Sharp, 2011:1). In 2007, Lynas (2007:25) claimed that humans had around 100 months to curb the effects of climate change and that if greenhouse gases were not decreased by 2015 the feasibility of restraining climate change within the "safety line" of two degrees will diminish daily.

2.2.1 Defining environmentalism

From a human perspective, an environment refers to the set of circumstances and the structure of socio-cultural conditions within which an individual and wider community lives (Leopold, 1999:4). Environmentalism describes the way in which humans express their concern about the state and future of their environment. In a sense, environmentalism is a social movement choice made by individuals out of their own freewill, which is founded on a number of concerns (Park, 2001:27). Miller (2000:3) provides a simple definition of environmentalism as being all the external conditions and factors that affect living organisms. From a marketing standpoint, environmentalism is the "organised movement of concerned citizens and government agencies to protect and improve people's current and future living environment" (Kotler & Armstrong, 2012:617).

2.2.2 Background and history of environmentalism

It is difficult to determine the exact time and date of the birth of environmentalism (Pepper, 1986:14). While true concern for the environment appears to have gained prominence from around the 1970s (Kuzmaik, 1991:265; Brown & Wahlers, 1998:39; Straughan & Roberts, 1999:558; Crane, 2000:277; Crane & Peattie, 2005:357), society's concern for the environment has rich historical roots that can be traced back thousands of years ago (Peattie, 2001:129; Billitteri, 2010:81). Grove (1996:1) found western environmental concerns and attempts at conservationist intervention dating far back in time, with thoughts of climate change evident in the ancient writings of Theophrastus in classical Greece. Weeks (2010:163) claims that humans have been recycling for centuries and points to the scrap recycling practices in the United States of America (USA), which by the late 1800s saw scrap dealers shipping recycled goods throughout the USA and Europe. Billitteri (2010:81) adds that the impact of population growth, industrialisation and urbanisation on food supplies, resources and natural beauty were worrying concerns among the political philosophers and economists in the 18th and 19th centuries. Goethe, Rousseau, Humboldt, Haeckel, Froebel, Dewey and Montessori are among the 'great' writers, thinkers and educators

from the 1800s and 1900s on whose work environmental education had a significant influence (Palmer, 1998:4). By the 19th and 20th century, it became evident that the human race needed to be aware of the environmental crises threatening the earth and that it was necessary to implement drastic changes it were to survive.

The following section outlines the major drivers of environmentalism.

2.2.3 Drivers of environmentalism

This section discusses some of the major forces that have driven the environmentalism movement.

2.2.3.1 Climate change and global warming

Climate refers to the pattern of dominating weather conditions in a region over an extended period. Global warming refers to the increase of greenhouse gases resulting from human industrial processes. These gases increase the average atmospheric temperature by forming an insulating layer around the earth's surface. For millions of years, the earth's climate has been constantly changing between hot and cold. Alternating these patterns are the various internal and external forces to the earth. Internal forces include volcanism, glaciations, solar variations and orbital variations, amongst others. In contrast, external climate change stems from the burning of fossil fuels, air pollution, and man-made greenhouse gases, all of which are attributed to human actions (Park, 2001:302; Cunningham & Saigo, 1999:372; Woodard, 2010:37; Enslin, 2010:12-13; Kalule & de Wet, 2010:38).

The past 30 years have seen global temperatures increase by 0.2 degrees Celsius per decade, with an overall increase of 0.7 degrees since the 1900s. The top ten of the earth's warmest years were recorded after 1990, bringing the global mean temperature to its highest level ever registered (Coleman, 2012:203; Stern, 2007:7; 68). Alarmingly, the latest predictions see the earth warming by 2 to 4.5 degrees Celsius by the end of the 21st century. This will cause extreme weather patterns to intensify, including stronger hurricanes and typhoons, reductions in winter snowfall and polar sea ice and recurring

heat waves, which may eventually lead to sea levels increasing by possibly one or two feet (Woodard, 2010:37).

Enslin (2010:12) explains that climate change is often misinterpreted as global warming -although climate change does increase global temperatures, it is not limited to just that cause. Climatic changes cause weather patterns to behave erratically, raising sea levels, affecting wind patterns, and decreasing seasonal perennial snow and ice extents (Karl & Trenberth, 2003:1719). According to a recent study, erratic changes in weather patterns have had detrimental effects on the global economy's gross domestic product (GDP), with 1.2 trillion dollars estimated to be lost on an annual basis. Scientists predict that by the year 2030 the cost of climate change will amount to 3.2 percent of global GDP (Harvey, 2012). Climate change has also affected South Africa and scientists are predicting that by 2050, coastal area temperatures will rise by around one to two degrees and the interior temperature by two to three degrees. After 2050, the prediction is for further projected increases at three to four degrees around the coastal areas, and at six to seven degrees in South Africa's interior. This will have potentially disastrous effects on African countries with already scarce water supply, as well as on other factors such as agriculture, human health and the environment in general (South Africa, 2010:7).

The last 50 years of global warming are mainly attributed to greenhouse gas emissions, which a considerable number of the world's scientists (Karl & Trenberth, 2003:1719; Tisdell, 2008:891; Woodard, 2010:26) believe, result from the burning of fossil fuels. A study done by the Intergovernmental Panel on Climate Change (IPCC) over six years that included input from more than 1000 scientists from 113 countries, showed with 90 percent certainty that human-generated greenhouse gases have been the leading cause in the rise of global temperatures over the past half century (Woodard, 2010:26)

2.2.3.2 Greenhouse effect

Woodard (2010:26) defines the greenhouse effect as the process by which the earth retains heat from the sun and involves the absorption of thermal

radiation reflected off the planet's surface by atmospheric gases, which in turn are re-radiated and warm the earth. Sathiendrakumar (2003:1234) concurs that once the sun's rays penetrate the earth's atmosphere, the earth absorbs the radiation waves, resulting in the heating of its surface. This absorption emits infrared radiation, where the heat is reflected from the atmosphere via atmospheric gases back onto the earth. Water vapour, carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons are the natural occurring gases within the earth's atmosphere that trap radiation and keep the sun's heat from escaping. Stern (2007:9) explains the greenhouse effect to be the earth's natural heating mechanism, keeping the surface of the earth at a steady 30 degrees Celsius in order to sustain life. Many scientists, but not all, believe that the increased amounts of greenhouse gases may affect the climate negatively, harm the ecosystem, endanger the natural environment and possibly threaten the very existence of the human race (Sathiendrakumar, 2003:1234).

While certain countries have endeavoured to reduce their greenhouse gas emissions, others continue to increase theirs. Consequently, global greenhouse gas emissions keep on rising at a steady rate. Countries such as China and India have recorded high rates of increasing emissions (Tisdell, 2008:894). In South Africa, the government has begun addressing the country's responsibilities pertaining to climate change issues. South Africa seeks to take the appropriate steps, at a national level, to decrease greenhouse gases by 34 percent below the "business as usual" emissions level by 2020, as well as by a further total reduction of 42 percent by the year 2025 (RSA, 2010). The majority of South Africa's greenhouse gas emissions (78%) come from the energy-based industry sector. The remaining non-energy burning emissions account for 22 percent and arise from activities not associated with the burning of fossil fuels such as waste (2%), industrial processes and product use (14%), and agriculture, forestry and other land use (6%) (Rahloa *et al*., 2011:26). The implementation of South Africa's greenhouse gas-mitigation efforts see the country's greenhouse gas levels peaking between 2020 and 2025, reaching its highest point and eventually declining after a decade or so (RSA, 2010).

Reducing greenhouse gas emissions below world current levels seems to be a fable feat and, in fact, emissions may possibly continue to increase. The last half century has shown carbon emissions rising at a constant rate. Predicting that actual carbon reduction may be achievable seems to be a very optimistic notion (Tisdell, 2008:890).

2.2.3.3 Rise in atmospheric carbon dioxide levels

Swedish chemist, Svante Arrhenius, observed in the late 19th century that human-induced activities, such as the combustion of coal and fossil fuels for warmth and the extraction of forested lands for urbanisation, has led to higher concentrations of carbon dioxide and methane gases in the atmosphere. The increase of greenhouse gas levels was believed to promote the greenhouse effect exponentially, and could possibly relate to the global warming trend (Coleman, 2012:202). Tisdell (2008:890) agrees that the more prominent the levels of greenhouse gases there are in the atmosphere, the greater the heating effect on the globe will be.

Sathiendrakumar (2003:1235) proposes that carbon dioxide gas is the number one culprit for the induced greenhouse gas effect, and found that 60 percent of greenhouse gases comprised carbon dioxide. Tisdell (2008:890) agrees and claims carbon dioxide to be the leading component of the greenhouse gases. More recently, Dahlstrom (2011:40) found that the world's carbon dioxide levels have risen to 80 percent of the greenhouse gas effect.

Growing emissions of carbon dioxide and other greenhouse gases are becoming increasingly problematic and pose a major global threat to the environment, which to date, has not been adequately addressed (Coleman, 2012:211). Tisdell (2008:890) explains that even if carbon dioxide emissions were held at current levels, the density of the gas in the atmosphere will increase, causing a rise in the global temperature in the not-so-distant future. Although, Harte (2007:234) argues that by stabilising the human contribution to climate change, emissions will reduce to a level where the removal of carbon dioxide from the atmosphere by natural means will correct the levels of greenhouse gases.

South Africa, as Africa's largest producer of carbon dioxide per capita from energy combustion, is expected to take the lead initiative in reducing carbon emissions for the continent. However, with more than 90 percent of South Africa's energy coming from the combustion of coal, South Africa has failed in doing so (SAJS, 2009:394). A reason for this failure might be because coal is cheap and abundantly available in the country and, as such, coal remains the preferred source of power for the country (South Africa, 2010:15).

The human race has been remiss in spotting and taking the necessary actions to avert the global environmental dangers brought about by economic growth that is excessively reliant on carbon fuels (Tisdell, 2008:889).

2.2.3.4 Human effect

Over the past few centuries, the human race has been depleting non-renewable resources, progressively polluting the air and water, eroding the soil, fragmenting and eliminating the habitat of fauna and flora, as well as causing changes the earth's climate (Harte, 2007:223).

After fossil fuel consumption, deforestation is the second largest human-induced contribution to excessive carbon dioxide in the atmosphere. Deforestation and forest degradation makes up 12 percent of human-induced carbon dioxide emissions (Van der Werf *et al.*, 2009:737-738). Since trees absorb carbon dioxide during the process of photosynthesis, the loss of trees due to deforestation evidently leads to the reduction of greenhouse gas absorption (Coleman, 2012:213-214). The Reducing Emissions from Deforestation and Forest Degradation (REDD) is a mechanism used by South Africa that aims to block major deforestation activities such as logging and land clearing with the objective of reducing greenhouse gas emissions (Rahloa *et al*., 2011:25).

The human population flourished with the industrial revolution bringing forth economic development, urbanisation and, inevitably, rising energy consumption. Many scientists believe that this led to increased greenhouse gases and possibly relates to changes in the climate. In addition, this growth in population spurred a recurrent loss of arable land and contributed to rapid

resource depletion (Sathiendrakumar, 2003:1237; Coleman, 2012:193). In terms of society, the rising population numbers make efficient schooling, material resources, and civic order more difficult to attain. These social impediments are, indirectly, the reason that environmental-problem solutions are prone to fail. Environmental problems further exaggerate social inequalities and injustices, thereby weakening the social order (Harte, 2007:235).

Another major environmental issue is water. Water is life. Yet, less than one percent of the world's water is suitable for human consumption. Approximately 70 percent of the world's fresh water is frozen in the ice caps of Antarctica and Greenland. The remaining water supply lies deep underground or is present as soil moisture and is not accessible for human use. In the case of South Africa, water is a very scarce resource (South Africa, 2010:6). Water scarcity and impurities may be attributed to population growth and urbanisation, poverty and low human development, growing need for food security, natural occurring substances, agriculture and water treatment (Dahlstrom, 2011:49-50).

2.2.3.5 Carbon footprint

A carbon footprint is described as the total amount of greenhouse gases produced directly and indirectly by human production, and consumption activities relating to climate change, usually calculated in tonnes of carbon dioxide and gaseous emissions (Anon, 2008:7; Wiedmann & Minx, 2008:4). Carbon footprints arise from activities performed by individuals, populations, organisations, industry sectors, companies, any products and services, processes and so forth (Wiedmann & Minx, 2008:4).

2.2.4 Environmental concern and environmental behaviour

Today's consumers appear to be more concerned about the environment. These concerns are evident in their purchasing patterns, where many consumers are increasingly favouring environmentally friendly products over other product alternatives (Do Paco & Raposo, 2009:365). Numerous consumers have begun to realise that their individual purchasing behaviour

does have a direct impact on the various ecological problems (Laroche *et al*., 2001:503). Sodhi (2011:180) asserts that the seriousness of environmental degradation, the depletion of natural resources and the need for behavioural change are now undeniable.

Laroche *et al*. (2001:503) claim that consumers have adapted to this heightened awareness of the omnipresent ecological threat by considering environmental issues when they shop. Many consumers have changed their purchasing preferences to include products that are biodegradable, recyclable, or products that are ecologically compatible with the environment. Gupta and Ogden (2009:376) found that Americans were not only willing to purchase environmentally friendly products but also would be even willing to pay higher prices for green products such as energy efficient appliances and hybrid cars. Many more studies around the world have found evidence that consumers are purchasing green products in an effort to preserve the environment (Crane, 2000:279; Kalafatis *et al.,* 1999:442; Rahbar & Wahid, 2011:73; Sodhi, 2011:177-178).

Marketers have found it difficult to anticipate and understand the environmental behaviour of consumers (Haytko & Matulich, 2008:2). Many research studies (Ali *et al.,* 2011:224; Chang, 2011:19; Rahbar & Wahid, 2011:74; Do Paco & Raposo, 2009:376; Peattie, 2001:137) have found that even though most consumers have developed a strong awareness of the need to protect and conserve the environment, and a concern for seeing environmental issues adequately addressed, their behaviour does not necessarily translate into green or environmentally friendly purchasing. Gupta and Ogden (2009:376-377) highlight this attitude-behaviour contradiction and indicate that neither previous or current research has been able to clarify why consumers fail to purchase green or environmentally friendly products, even though they claim to have such deep concerns about environmental issues.

Peattie (2001:137) explains that many marketers believe this attitude-behaviour contradiction to be the product of “social over-reporting” of environmental concern among consumers. Chang (2011:19) posits that a possible reason for this might be that some consumers have a negative

perception of green products, where they perceive green products as being of an inferior quality or costing more, resulting in the none-purchase of green products even though they do indicate being concerned about the environment. A study done in Pakistan by Ali *et al.* (2011:224) supports the findings of Chang (2011:19), and determined that while many consumers have positive attitudes and strong intentions towards consuming green products, they fail in actually doing so. Ali *et al.* (2011:224) conclude that this has resulted in higher prices and a poorer quality of green products when compared to non-green products in Pakistan. Similar results were concluded in a study conducted by Do Paco and Raposo (2009:376), who found that even though Portuguese consumers understood the challenges the environment faces and the state of existing environmental problems, their concerns did not necessarily translate into environmentally-friendly behaviour. In order to overcome this dilemma Peattie (2001:137) along with Peattie and Charter (2003:737) suggest that in order to gain insight into environmentally friendly purchasing behaviour, marketers should focus their attention on trying to understand the green purchase rather than the green purchaser, given that green purchases typically necessitate some form of compromise in terms of price, quality or convenience.

Heightened environmental concern, together with the dilemma posed by the incongruity between consumers' green attitudes and behaviours, has influenced the practice of marketing.

2.3 GREEN MARKETING

Increased ecological concerns are significantly influencing marketing practices as marketers grapple with how best to deliver customer satisfaction to the increasingly green-minded consumer. This section addresses the concept of green marketing and its various components, with a specific focus on the concept of green advertising.

2.3.1 Green marketing defined

The progressive development of marketing has seen various definitions of green marketing arise (Dahlstrom, 2011:5). Peattie (2001:129) uses the term

green marketing in reference to marketing activities that attempt to impede the negative social environmental effects of existing products and production systems, and promote less harmful products or services. Troup (2010:1) views green marketing as the use of various marketing activities that encourage the purchase of environmentally preferable products, as well encourage a change in lifestyles. Dahlstrom (2011:5) differentiates between two definitions of green marketing. First, the retail green marketing definition, which entails product offerings that are not harmful to the environment (organic vegetables) but that do not necessarily specify whether the ingredients used in the production process have any harmful effects. Secondly, green marketing as defined in a social context, which involves developing and marketing products in such a way as to minimise their harmful effects on the actual environment. Regardless of how green marketing is defined, Ottman *et al*. (2006:24) indicates that green marketing must adhere to two objectives to be effective, namely improving environmental quality and customer satisfaction.

2.3.2 Background to green marketing

As indicated in Chapter 1, green marketing's history may be classified into three stages starting from the 1980s up until present times. The late 1980s saw the first true stage of green marketing that introduced and discussed the green marketing concept within industry (Kuzmiak, 1991:266; Peattie & Crane, 2005:358).

The early 1990s witnessed green marketing's second stage, which Wong *et al*. (1996:264) claim was when marketers experienced a slight backlash. This backlash occurred because of organisations attempting to increase product sales using false, unproven environmental claims (Peattie & Crane, 2005:361). Wong *et al*. (1996:264) add that even though consumers became environmentally aware and concerned, it was evident that green products did not yield much success in the market. Rex and Baumann (2007:572) concur, indicating that numerous polls in the early 1990s showed a rise in the number of green consumers because of increased green environmental issues. Although, various authors (Crane, 2000:277; Peattie & Crane, 2005:357; Rex

& Baumann 2007:568) found there to be a growth in green marketing in the early 1990s, the focus of green marketing literature was on identifying consumers' environmental concerns, green market size and green consumer profiling, rather than on consumers' actual lack of green product purchases and environmentally-friendly behaviour at the time.

Even so, green marketing management recognised the strategic importance of fulfilling consumers' environmental needs (Brown & Wahlers, 1998:44) and continued the environmental movement by means of improving design methods, investigating packaging solutions, altering product formulas and increasing cause-related promotion efforts (Straughan & Roberts, 1999:558). However, by the mid-1990s, many organisations had embellished on their green marketing activities and discredited the practise of green marketing by producing under-performing green products, making exaggerated promotional claims and operating in a way inconsistent with legislation, which left consumers in confusion, disbelief and unwilling to participate in green purchase behaviour (Crane, 2000:278).

Continuing in the mid-1990s, evidence still showed a deficiency in green consumerism growth, and researchers on green product promotions appeared to have experienced the same unsuccessful pattern (Peattie & Crane, 2005:359; Rex & Baumann, 2007:573). Consequently, marketing scholars researching green marketing turned their attention away from the original green marketing agendas and focused their studies on the concept of environmentally based competitive advantage (Peattie & Crane, 2005:366).

This heralded the third stage of green marketing, which began from the year 2000 and continues to the present. This third stage has seen green marketing gain intensity as it adapts in response to advancements in technology, governments strictly tightening up environmental regulations and increased global environmental awareness (Rahbar & Wahid, 2011:74). Hence, green products made a comeback into markets because of consumers' increased environmental awareness (Leonidou *et al*., 2010:1319-1320).

2.3.3 Problems associated with green marketing

Green marketing success, as a process, depends on overcoming three major problems linked to green marketing, namely poor credibility, consumer cynicism and consumer confusion (Mendleson & Polonsky, 1995:4; Peattie & Crane, 2005:357; Ottman *et al*., 2006:22). If marketers cannot conquer these problems, it is debatable whether environmental marketing, as a whole, will be effective (Mendleson & Polonsky, 1995:5).

Credibility concerns from consumers stem from some organisations' poor past track record concerning environmental performance, where green products failed to provide credible and substantial environmental benefits (Mendleson & Polonsky, 1995:5; Ottman *et al*., 2006:25). Marketing involves building a relationship between the customer and the organisation. If that relationship is plagued by distrust, due to an organisation misleading its customers regarding green marketing claims, the relationship will suffer (Peattie & Crane, 2005:359; Mendleson & Polonsky, 1995:5).

The problem of consumer cynicism also arises from the past actions of organisations, where consumers' increased awareness for the environment was exploited for the purpose of increasing sales by means of marketing unproven, untrue and false green claims about products, and a failure to modify production processes in line with acceptable green practices (Mendleson & Polonsky, 1995:4; Peattie & Crane, 2005:361). Crane (2000:289) adds that the consumers' hostile perceptions of green products made it difficult for organisations to establish green credibility and to differentiate themselves from those competitors who falsely claimed to have achieved equivalent environmental standards.

Consumer confusion over bogus environmental claims began from the 1990s. Consumers did not believe that green products performed as well as non-green products. In addition, consumers also grew suspicious about manufactures' claims about green products (Crane, 2000:283).

Peattie and Crane (2005:360-364) identify the following five failed marketing strategies that have hampered green marketing success during the last three decades:

- **Green spinning:** This involves organisations taking a reactive stance and employing public relation tools to contradict the public's allegations and criticisms against its practices.

- **Green selling:** With this strategy**,** organisations use an opportunistic approach whereby 'good' environmental claims are falsely added to existing products in order to enhance sales.

- **Green harvesting:** This self-serving strategy involves organisations only becoming proactive towards preserving the environment when such greening directly benefits the organisation. For example, cost savings by reducing packaging or material input efficacies.

- **Enviropreneur marketing:** This strategy revolves around organisations developing and marketing revolutionary green products without first determining what consumers actually want and need.

- **Compliance marketing:** With this strategy, organisations simply conform to the bare minimum compulsory environmental legislations. Organisations opportunistically use this to promote their own green credentials without taking any actual voluntary initiatives in green polices.

In light of these green marketing strategies that have failed, the following section reviews the literature on the factors to consider in developing a successful green marketing strategy.

2.3.4 Factors to consider in developing a green marketing strategy

While achieving a competitive advantage through green marketing is a complex task, poor eco-performance is a recipe for creating a significant competitive disadvantage (Peattie & Charter, 2003:735). According to Kotler (2011:135), as with any other marketing strategy process, implementing a

successful social marketing strategy such as green marketing necessitates consideration of the marketing tasks of segmentation, targeting, positioning and the management of the marketing mix.

2.3.4.1 Identifying the green consumer

Segmentation of consumers allows organisations to study similar groups of consumers based on their needs, characteristics and buying behaviours (Schiffman *et al*., 2010:28). Segmentation permits organisations to fulfil consumer value while satisfying the needs of the organisation simultaneously (Dahlstrom, 2011:96). Peattie (2001:137) elaborates that the identification of consumers willing to buy green products is a key element in green marketing success. Marketers initially identified and segmented green consumers by socio-demographic features such as age, sex, income and level of education, but purchasing behaviour clearly did not match the voice of consumers' environmental concerns (Crane, 2000:277; Peattie, 2001:137; Peattie & Crane, 2005:357; Rex & Baumann, 2007:568).

Minton and Rose (1997:39) suggest segmenting consumers based on their level of environmental concern and sense of personal obligation towards protecting the environment.

Do Paco and Raposo (2009:371) propose that environmentally friendly buying behaviour, environmental activism, knowledge and concern, recycling, perceived consumer effectiveness, resource saving, economic factor, and scepticism towards environmental claims are all important bases for segmenting green consumers. Straughan and Roberts (1999:567) suggest using either a psychographic model that includes variables such as perceived consumer effectiveness, altruism, liberalism and environmental concern or a mixed model comprising both psychographic and demographic variables, to segment green consumers. They warn against relying exclusive on the demographic model in segmenting and targeting green consumers. While it is useful to gauge attitudes towards environmentalism in order to segment the market, findings by Pickett-Baker and Ozaki (2008:287) reiterate that there is a gap between pro-environmental attitudes and actual environmental

behaviour. As discussed in Section 2.2.4, this suggests that while respondents may claim to be concerned about the environment, they do not necessarily modify their behaviour and purchases according to these concerns. For marketers of green products as well as those of marketing campaigns geared at encouraging pro-environmental behaviour, this discourse between environmental attitudes and behaviour represents a daunting challenge (Gupta & Ogden, 2009:377).

Taking note that studies seeking suitable methods for identifying and targeting green consumers have resulted in mostly inconclusive and sometimes even contradictory findings, Peattie and Charter (2003:737) advocate differentiating green market offerings ecologically from competing offerings and positioning them as solutions to verifiable environmental issues whose purchase will result in a real ecological difference. Both Roberts (1995:110) and Gupta and Ogden (2009:386) found empirical evidence that perceived efficacy, which refers to a person's belief in the power of an individual consumer to influence environmental problems, to be an important distinguisher between non-green and green consumers. This suggests the need to highlight personal efficacy in positioning green market offerings.

2.3.4.2 Greening the marketing mix

Traditionally, the marketing mix refers to the 4Ps model comprising product (or service), price, place (distribution) and promotion (Schiffman *et al*., 2010:28). However, regarding green marketing, these variables tend to differ from that of conventional marketing (Peattie, 1995:109; Palmer, 2003:588; Kotler & Armstrong, 2012:75). Peattie (1995:109) adapted the 4Ps model into what he refers to as the "greening of marketing mix" model. This model includes the external 7Ps of paying customers with a need for green products/services, providers following green practices, politicians promoting green issues, green pressure groups, problems arising from green marketing, predictions on green consumption and problems, and partners influencing the organisation's green efforts. In addition, the model includes the internal 8Ps of product, processes, price, place, policies, people, providing information and promotion.

According to Pickett-Baker and Ozaki (2008:283), while no product can be considered truly environmentally sustainable, a green product is one that has a low impact on the environment. Peattie (1995:180) describes a green product as a product that fulfils consumer needs, is accepted on a social level and is manufactured in a sustainable manner. Ottman (2011:110) stipulates that consumers are reluctant to sacrifice quality or performance for the sake of going green when choosing products. Therefore, it is imperative for green products to meet or surpass consumer expectations (Ottman *et al*., 2006:31). Pickett-Baker and Ozaki (2008:290) report that the perceived risk of green products not performing as expected represents a significant barrier to the purchase of such products by consumers. Related to product design and management are the processes by which products are produced. Products are being scrutinised for the impact they have on the environment from the very beginning of their production lifecycle right through to their eventual disposal (Ottman, 2011:56). This suggests that the product design needs to incorporate the green dimension, which lessens its environmental impact from the start of its life right through to its eventual disposal.

Price is a significant factor influencing consumer product choice, and is defined as the total value that consumers sacrifice in order to obtain the benefits or use of a product or service (Kotler & Armstrong, 2012:314). Peattie and Charter (2003:749) suggest that pricing is one of the most challenging aspects in green marketing given that if the higher costs involved in being eco-friendly are passed on to the consumer, the organisation is susceptible to accusations exploiting consumer's green needs and price undercutting from competitors. The perception is that green products tend to be more costly, and in most cases, the price is higher than conventional products because of higher production costs (Peattie, 1995:284; Peattie & Crane, 2005:362; Chang, 2011:20). However, the findings of a study conducted by Laroche *et al*. (2001:513) indicate that consumers with a positive attitude towards environmentalism are willing to pay more for green products. Peattie and Charter (2003:737) indicate that a key determinant of a willingness to pay a higher price for green market offering is the consumers' confidence in the environmental benefits rendered by the purchase of the offering.

Kotler and Armstrong (2012:76) define place as the activities an organisation undertakes to make a product accessible to the organisation's target consumers. According to Kotler (2011:131), a major place decision facing green organisations is where to establish their production and distribution facilities. On an ecological front, the means of energy consumption and socio-environmental impacts of transporting a product to where it is needed is an important factor in a product's overall eco-performance (Peattie, 1995:249). Attaining optimal environmental performance in distribution represents a significant challenge. For example, organisations could make use of large trucks to reduce the amount of fuel used per product but in doing so, communities and roads could face greater negative effects from the trucks passing through them (Peattie & Charter, 2003:750). Kotler (2003:131) suggests that pro-environmental marketers should compare existing distribution channel alternatives and consider new channels, such as the online channel, in an effort to decrease their organisation's carbon footprint.

In terms of the policy element of the green marketing mix, many policies have been put into place, mostly in an effort to curb organisations that attempt to exploit green marketing by offering false environmental claims or committing greenwashing. Such policies are the various environmental management systems, the ISO series and in South Africa's case the South African Bureau of Standards (SABS) (Ronnenburg *et al*., 2011:632-633; SABS, 2012). These policies have been used to capture the green consumer market. Green consumers are an essential part of the green marketing process as they are the ones who determine if green marketing will be successful or not (Peattie, 2001:137).

Organisations that have attained a strong environmental performance must communicate or provide information on this to their consumers in order to gain the competitive advantage that green marketing can provide (Peattie, 1995:216). Furthermore, providing information to consumers serves to educate them regarding environmental issues, which in turn, has been found to increase their environmental awareness levels and promote a favourable attitude towards green products and green behaviours (Laroche *et al*.,

2001:513; Cheah & Phau, 2011:464). Enlightening consumers about the environmental and social benefits can be troublesome because such benefits can be indirect, intangible and in some cases insignificant to the consumer (Peattie, 1995:219; Ottman, 2011:108). To this end, organisations can utilise the elements of the promotion mix to communicate their pro-environmental behaviour and green product information to target consumers (Laroche *et al*., 2001:513).

An organisation's promotional mix includes advertising, public relations, personal selling, sales promotion and direct marketing (Kotler & Armstrong, 2012:432). The main goals of green promotion are to inform target consumers about the organisation's green practices and market offerings and to persuade consumers to convert to green offerings over conventional offerings (Peattie, 1995:231). Green advertising, in particular, is used to encourage consumers to engage in pro-environmental behaviour and to purchase green market offerings (Haytko & Matulich, 2008:2; Rahbar & Wahid, 2011:76).

The following section provides a more in-depth look at green advertising.

2.3.5 Green advertising

Kotler (2003:563) defines advertising as "any paid form of non-personal presentation and promotion of ideas, goods or services by a paid sponsor". Advertising represents a salient social phenomenon that not only stimulates demand but that also serves to shape lifestyles and value orientations in society (Pollay & Mittal, 1993:99), and is credited as being the driving force behind public awareness of green issues and the growing demand for green products and services (Leonidou *et al*., 2011:6).

Green advertising, which first surfaced in the 1970s (Haytko & Matulich, 2008:2), rose sharply in the 1980s in response to increased public ecological concerns and more stringent ecological government regulations and then dipped again in the 1990s, mostly due to misleading and exaggerated green advertising claims (Leonidou *et al*., 2011:8). The start of the new millennium saw a renewed interest in green advertising efforts (Haytko & Matulich, 2008:2; Leonidou *et al*., 2011:8).

Banerjee *et al*. (1995:22) describe green advertising as including advertisements that link the market offering to the environment, promote a pro-environmental lifestyle and/or depict an organisation as being environmentally responsible. While consumers who are already environmentally conscious tend to be more aware of, and be more positive towards, green advertising (Haytko & Matulich, 2008:2; Pickett-Baker & Ozaki, 2008:293), green advertising is still a critical tool in furthering green consciousness amongst consumers and organisations (Leonidou *et al*., 2011:6).

Studies suggest that when designing green advertising, it is better to adopt emotional rather than rational appeals (Lee, 2009:92; Pickett-Baker & Ozaki, 2008:292). Laroche *et al*. (2001:513) add that green advertising should educate consumers of the convenience of purchasing green products and services, as many still perceive being environmentally friendly as an inconvenience. Furthermore, Pickett-Baker and Ozaki (2008:292) highlight that green advertisements need to be relevant and engaging and should contain information, not only on the benefits of green products and services, but also on improvements made to them.

Green advertising can be used as an effective tool in an organisations overall environmental marketing strategy. This, ultimately, translates into a competitive advantage; however, to achieve green advertising benefits, organisations must win over the trust of both consumers and stakeholders. This task might prove to be difficult when trying to capture the Generation Y market, as this generation is quick to identify and criticise unauthentic and untruthful marketing claims. (Leonidou *et al*., 2011:25; Ottman, 2011:6).

2.4 GENERATION Y CONSUMERS

The youth represent the future of environmentalism, which makes them a very important target market for the green movement (Lee, 2009:87). Generation Y is the label given to today's youth (Markert, 2004:21; Eastman & Liu, 2012:94). While there is some debate as to the exact start and end dates of Generation Y, Markert (2004:21) posits using 20-year increments to divide

generational cohorts and defines Baby Boomers as individuals born between 1946 and 1965, Generation X as those born between 1966 and 1985 and Generation Y as those born between 1986 and 2005.

The premise of segmenting a market along generational lines is based on the assumption that members of each generation share experiences stemming from distinctive environmental forces while growing up, and that these experiences influence their behaviour and distinguish them from members of other generations (Bakewell & Mitchell, 2003:97; Twenge & Cambell, 2008:863). Generational research does not dispute that older generations are influenced by the same pervading circumstances shaping younger generations, which makes stereotyping a generational cohort risky (Nicholas *et al.,* 2011:63). Rather, generational research attempts to describe how the average individual in one generational cohort differs from the average individual in another generational cohort (Twenge & Cambell, 2008:863).

Generation Y individuals were born into the digitally connected world of the Internet, mobile telephony, virtual social networking, 24/7 global television news stations (Schwalbe, 2009:53; Smith, 2012:87; Ottman, 2011:6), reality television shows and readily available high quality documentaries on an array of subjects, including documentaries on the effects of climate change and natural resource depletion. Sometimes referred to as digital natives (Schwalbe, 2009:54), Generation Y members are accustomed to interacting with each other and the world on an anytime and an anywhere basis. They are also used to receiving news of events and major happenings practically as they happen and to having instant access to the vast store of information housed on the Internet (Ottman, 2011:6). In such a media saturated world, Generation Y individuals have been inundated with news of global financial meltdowns, terrorism, the Aids pandemic, world hunger, wars, civil unrest, natural disasters and the omni-present threat of global warming and climate change (Shaw & Fairhurst, 2008:373). Unlike previous generations, they also have the tools, in the form of virtual social networking (Facebook, MXIT, Instagram), virtual social reporting (Twitter) and virtual social media (YouTube), at their disposal to broadcast their opinion on these matters and

others to potentially millions of people around the globe (Ottman, 2011:6). Given their access to information, the Generation Y cohort, more so than any previous generation, should be aware of and knowledgeable about the threat that human action poses to the environment. Moreover, as the youth of today, they represent the future of the green movement (Lee, 2009:87; Ottman, 2011:6). It is their vote, their actions and how they pass on the message to future generations that will ultimately dictate the next half-century or more of the green movement (Lee, 2009:87).

As indicated in Chapter 1, in South Africa, the black Generation Y cohort made up approximately 84 percent of the South African Generation Y cohort and 33 percent of the total South African population in 2011 (Statistics South Africa, 2011). The sheer size of South Africa's black Generation Y cohort makes them important to the country's green movement and an attractive market segment to marketers, including green marketers. Those with a tertiary qualification are likely to manifest as potentially powerful opinion leaders and trend setters amongst the wider black Generation Y cohort, given that tertiary education is often linked to a high earning potential and a higher social standing (Carnevale & Fry, 2001; Wolburg & Pokrywczynski, 2001:33; Bevan-Dye *et al*., 2009:174; Schwalbe, 2009). As such, understanding black Generation Y students' environmental concerns and behaviour, and their attitudes towards green advertising, will have important implications on the green movement in South Africa.

International studies indicate that Generation Y members socialisation into a media-saturated, brand conscious and materialistic world (Wolburg & Pokrywczynski, 2001; Bakewell & Mitchell, 2003) has made them more vigilant to marketing practices which seem to be dishonest or bogus (Ottman, 2011:6), which is an important consideration in designing green advertising messages targeted at this cohort.

There are indications that Generation Y individuals are environmentally concerned (Lee, 2009:91; Barton *et al*., 2012) and prefer to consume from organisations that contribute to sustainability by means of helping people, communities and the environment (Barton *et al*., 2012; Smith, 2012:87). They

are purported to be significant users of the Internet (Schwalbe, 2009:54; Barton *et al*., 2012), mobile telephony (Kumar & Lim, 2008:570; Schwalbe, 2009:54) and virtual social networking sites (Nicholas *et al*., 2011:44; Barton *et al*., 2012). Accordingly, Lee (2009:92) suggests that green marketers should utilise new media platforms to reach this cohort. The reach of these new platforms may be of importance to green marketers targeting Generation Y members, as research indicates that they, more so than previous generations, actively encourage others to support cause campaigns (Barton *et al*., 2012). Furthermore, Spero and Stone (2004:154) advise the use of the emotional appeal to get the Generation Y individuals to connect to brands. In terms of green advertising, Lee (2009:92) echoes this sentiment and advocates that green marketers should focus on an emotional rather than rational green appeal in their advertising message design when targeting this generational cohort.

In conclusion, the black Generation Y cohort represents an important target market for green marketers in South Africa and, as indicated by Barton *et al*. (2012), getting this generational cohort to engage with brands, including green brands, involves designing marketing messages that are applicable to, and mindful of, them.

2.5 SYNOPSIS

The purpose of this chapter was to provide review the literature in order to set the theoretical grounding of the study in accordance with the theoretical objectives set in Chapter 1. Section 2.1 and 2.2 encompassed the factors pertaining to environmentalism, including the definition (Section 2.2.1), history and background of environmentalism (Section 2.2.2) and drivers of environmentalism (Section 2.2.3). Section 2.2.4 entailed consumer's environmental concern and environmental behaviours. Highlighted in Section 2.3 are the elements that make up green marketing, including the definition (Section 2.3.1), background (Section 2.3.2) and problems (Section 2.3.3). Section 2.3.4 discussed factors in developing a green marketing strategy. In addition, Section 2.3.5 outlined the concept of green advertising. The chapter ends with a discussion on the Generation Y consumers in Section 2.4.

The following chapter, Chapter 3, pertains to the empirical portion of the study, which fully discussed the research methodology. This chapter covers the following topics: formulating the research objectives and research design, data requirements, the research instrument, developing a sample plan and statistical analysis.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

According to Malhotra (2010:39), marketing research is a systematic and objective process involving the collection, analysis, circulation and use of data in order to assist decision-making pertaining to marketing-related issues. McDaniel and Gates (2001:6) add that the findings emanating from marketing research are communicated to management who interpret the data for decision-making purposes. Marketing research is also used for the exploration of new uncharted opportunities in the market.

As indicated in Chapter 1, the primary objective of this study was to determine South African black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour. This primary objective was then deconstructed into five empirical objectives (refer to Section 1.3.3), which dictated the collection of the following required data:

- Black Generation Y students' attitudes towards green marketing.
- Black Generation Y students' level of environment concern.
- Black Generation Y students' environmental behaviour.

Chapter 3 describes the research methodology employed in collecting and analysing this data, including the sampling procedure, questionnaire design, data collection process and the statistical techniques used to analyse the data. The chapter starts with a discussion of the research design in Section 3.2.

3.2 RESEARCH DESIGN

When undertaking a research project a research design is followed. This design is a structured plan used to obtain and analyse data and serves as a

guideline for attaining the study objectives (Iacobucci & Churchill, 2010:58; Malhotra, 2010:102).

Research designs are generally classified into three main categories, namely exploratory research, descriptive research and causal research (Kotler & Armstrong, 2012:127; Iacobucci & Churchill, 2010:58).

An exploratory research design aims at gathering information that facilitates the definition of the problem and the formulation of the proposed hypotheses (Kotler & Armstrong, 2012:127). Iacobucci and Churchill (2010:60) add that the main objective of this research design is to provide insights into and ideas on research problems and consequent hypotheses. Exploratory research is characterised as being flexible and unstructured (Malhotra, 2010:104).

Causal research is a conclusive research design based on testing hypotheses concerning cause-and-effect relationships (Kotler & Armstrong, 2012:127). It may be used to determine what aspects affect market behaviour and to evaluate the relationship and interactions experienced between these factors (Chisnall, 1992:24). The main purpose of causal research is to determine how an independent variable causes an effect on a dependent variable of an anomaly and to determine the relationship between the causal variables and the effect (Malhotra, 2010:113).

A descriptive research design is another form of conclusive research. The main function of descriptive research is to describe something, such as a market characteristic (Kotler & Armstrong, 2012:127; Malhotra, 2010:106). Descriptive research has different uses, including describing the characteristics of specific groups, making predictions, estimating consumer behaviour, and determining perceptions and attitudes (Iacobucci & Churchill, 2010:84; Malhotra, 2010:106). Malhotra (2010:106) adds that this type of research design is also used to determine the extent to which marketing variables are associated.

Churchill (1995:163-164) portrays descriptive research to be more than simply gathering vast amount of facts. The research direction relies upon one or more hypotheses formulated, and it is these hypotheses that the study is

based on. Therefore, descriptive research may be considered a rigid structure that asks the questions of 'who, why, what, when and how', in contrast to exploratory research, which is a flexible and unstructured (Berndt & Petzer, 2011:32; Churchill, 1995:164; Struwig & Stead, 2001:8).

Descriptive research designs comprise longitudinal studies and cross-sectional studies (Iacobucci & Churchill, 2010:86). Longitudinal studies involve the same respondents being measured repeatedly over a specified period of time (McDaniel & Gates, 2001:189; Berndt & Petzer, 2011:133). In contrast, a cross-sectional study involves data being collected from any sample only once (Iacobucci & Churchill, 2010:86; Malhotra, 2010:108). A single cross-sectional design is one in which data is collected once from one sample, whereas a multiple cross-sectional design involves collecting data from two or more samples once (Malhotra, 2010:108).

This study used a descriptive research design, using the single cross-sectional approach. The following section describes the sampling procedure utilised in the study.

3.3 SAMPLING PROCEDURE

This section outlines the sampling procedure followed in the study and includes a description of the target population, the sampling frame, the sampling method and the sample size.

3.3.1 Defining the target population

A population is the sum of the elements or objects that have certain shared characteristics pertinent to a particular marketing research issue (Malhotra, 2010:371). The target population is the collection of those elements or objects that have the data required to investigate and address the specific marketing research issue (Chisnall, 1992:51; Malhotra, 2010:372). In many cases, it is not feasible to measure every element or object in a given population, which then leads to a sample of that population being taken (Berndt & Petzer, 2011:39). A sample is a portion or a microcosm of the population (Sciglimpaglia, 2010:114). Accurately defining the target population from

which the sample is to be drawn is imperative to the successful achievement of reliable and valid results (Chisnall, 1992:52; Struwig & Stead, 2001:41).

In regards to this study, the target population was defined as black Generation Y students between the ages of 18 and 24 years, who were enrolled full-time at registered public South African HEIs during 2012.

3.3.2 Sampling frame

A sampling frame is a set list of the possible elements from the target population. The sample is drawn from this list, and examples include telephone books, registered voters, class lists and so forth (Struwig & Stead, 2001:109; Iacobucci & Churchill, 2010:284).

The sampling frame for this study consisted of the 23 public registered HEIs in South Africa (Higher Education in South Africa, 2011). From this list of 23 registered institutions, a judgement sample of four institutions in the Gauteng province was chosen, which included two country-based and two city-based universities. A university of technology was amongst the country-based institutions while the remaining institutions were traditional universities.

3.3.3 Sampling method

An important factor in a research study is the sampling method chosen. The two main methods of sampling, according to Berndt and Petzer (2011:173), are probability and non-probability sampling.

Probability sampling is based on a random selection concept where each element of the population has a known, non-zero chance of being included in the study sample. Probabilities need not be equal but probabilities must be specifiable (Iacobucci & Churchill, 2010:285; Berndt & Petzer, 2011:175). Probability sampling can make use of legitimate mathematics because of its sound theoretical basis of probability (Chisnall, 1992:66). On the other hand, non-probability sampling displays subjective and arbitrary traits, where researchers select respondents based on judgement alone. Therefore, there is no way of determining, with certainty, if the population element included in

the sample is representative of the population (Iacobucci & Churchill, 2010:285; Berndt & Petzer, 2011:175). Results gathered by probability sampling methods permit researchers to compare reliability and validity with the defined target population, while in non-probability sampling, population elements are unknown; therefore, calculating potential error between the sample and target population cannot be done (Shukla, 2008:58).

Probability and non-probability sampling methods are classified into sub-groups, as presented in Figure 3.1.

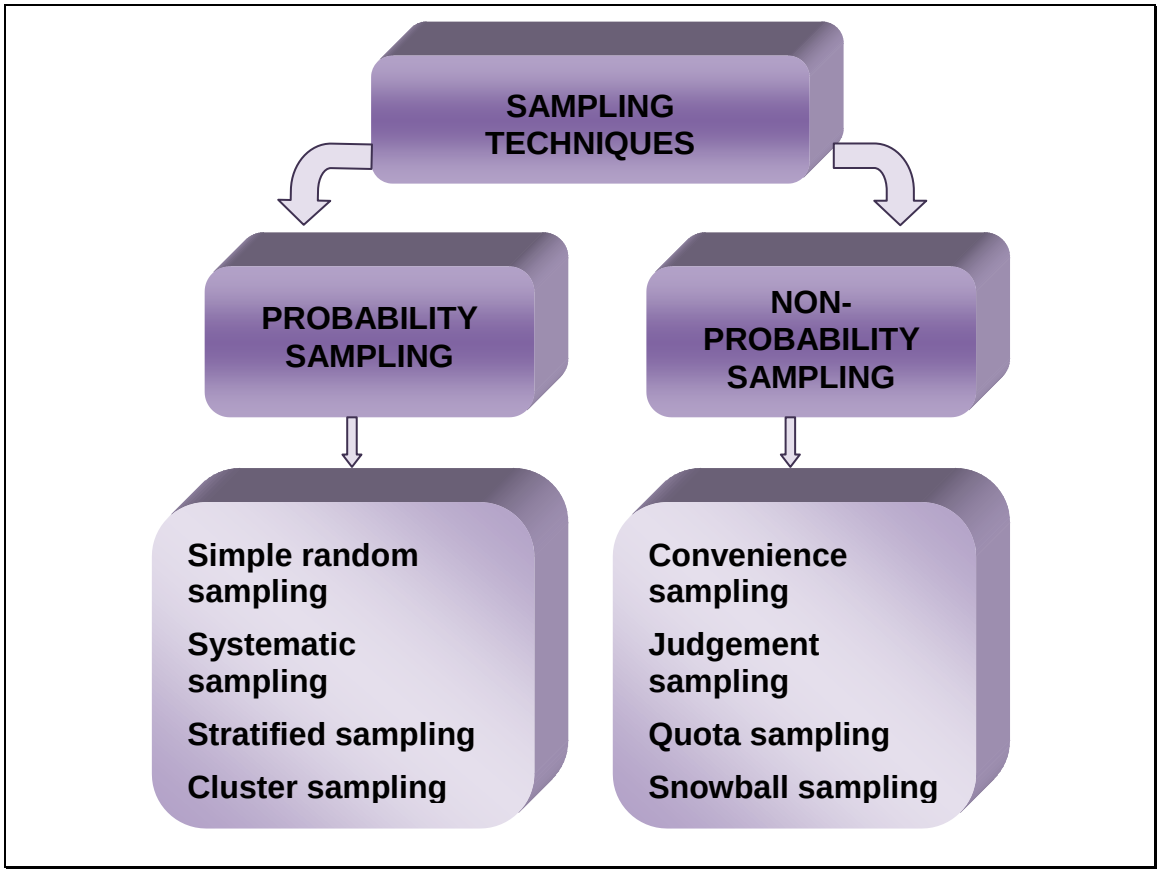

Figure 3.1: Probability and non-probability sampling methods (Shukla, 2008:59)

As indicated in Figure 3.1, probability-sampling methods include simple random sampling, systematic sampling, stratified sampling and cluster sampling, while non-probability sampling methods include convenience

sampling, judgement sampling, quota sampling and snowball sampling (Shukla, 2008:59).

Owing to time and financial constraints, the convenience sampling method was used in this study. Malhotra (2010:377) defines convenience sampling as the collection of sample elements in a convenient manner. Primarily, the interviewer has the choice of selecting the sample units. Struwig and Stead (2001:111) add researchers make use of the convenience sampling method because respondents are available, easily accessible and articulate. Furthermore, the convenience sampling method offers the advantages of being low in cost and less time intensive (Webb, 2003:191). With convenience sampling, only specific respondents at a set time and place have the opportunity to form part of the study, examples include church groups, use of students, mall-intercept interviews, and so on (Berndt & Petzer, 2011:174). As such, convenience samples are not be truly representative and care should be taken in attempting to generalise the results obtained from such samples to the population. Regardless of this limitation, convenience sampling is often used, even in the case of large samples (Malhotra, 2010:377).

For the purpose of this study, a non-probability convenience sample of full-time black Generation Y students, registered at four South African HEIs, aged between 18 and 24 years was utilised.

3.3.4 Sample Size

The sample size refers to the number of respondents needed in a study in order to draw conclusive findings from the use of analysis (Berndt & Petzer, 2011:182). Chisnall (1992:93) explains how the determination of a sample depends on several factors, including the basic characteristics of the population, the data required from the collection process and the costs involved.

A sample size of 400 students was selected for this study. This sample size is in the range of other studies of this nature, such as those conducted by Straughan and Roberts (1999:564) (sample size: 235), Ali *et al.,* (2011:220) (sample size: 400), Rahbar and Wahid (2011:77) (sample size: 250),

Leonidou, *et al*. (2010:1328) (sample size: 500) and, as such, was considered sufficiently large.

3.4 DATA COLLECTION METHOD

The significant task of data collection is the physical process of collecting data from respondents in the sample. Quantitative studies utilise two common data collection methods, namely the observation and survey methods. Researchers must develop procedures within the study to standardise the collection method, irrespective of which method is being utilised (Struwig & Stead, 2001:86; Berndt & Petzer, 2011:202).

Survey methods typically make use of a structured questionnaire with the aim of extracting specific data from respondents. Common survey methods are personal interviews, telephone interviews, mail interviews and online interviews (Shukla, 2008:47-48). In contrast, Malhotra (2010:230) defines the observation method as systematically approaching the population of interest with the intention to observe and collect behavioural data patterns of people, objects or events.

The method of data collection chosen for this study was the survey method, where a standardised self-administered questionnaire was utilised to collect the required data specified in Section 3.1. Permission was solicited from lecturers at each of the four selected HEIs to distribute the questionnaires to their students. The questionnaires were delivered to those lecturers from whom permission had been granted, who then distributed the questionnaires to their students for completion during class or after class.

3.4.1 Design of the questionnaire

A questionnaire is the means by which researchers present a set of specific questions to respondents, who then proceed in answering them. A questionnaire is designed to collect data concerning a problem, in accordance with the research objectives of the study (Chisnall, 1992:109; Sciglimpaglia, 2010:106).

According to McDaniels and Gates (2001:289-290), poor questionnaire design will result in the collection of inadequate and/or imprecise data. Therefore, questionnaires should have simple direct questions, which are not ambiguous or double-barrelled. The questionnaire should also explain unfamiliar terms and be presented in a logical structured format (Berndt & Petzer, 2011:186). Iacobucci and Churchill (2010: 221) add that a smart physical appearance is vital in getting respondents to co-operate, along with an introduction and the cover letter. As the first component seen by a respondent, the cover letter or introduction needs to be interesting, to entice the respondent to complete the questionnaire.

The questionnaire of this study portrayed simple and brief objectives. The questionnaire was kept as short as possible, and simple English terminology was utilised to ensure a clear understanding of the questions. A cover letter attached to the questionnaires included the purpose of the study, relevant contact details and an explanation concerning why the study focused exclusively on black Generation Y students.

3.4.2 Questionnaire content

The study utilised three previously validated scales from the literature to obtain the necessary data. Haytko and Matulich's (2008:4) scales were used to measure black Generation Y students' attitudes towards green advertising and environmental behaviour. The attitude towards green advertising scale consisted of four constructs, namely cognitive and affective response to green advertising (11 items), consumer response to the companies and their products (13 items), consumer specific behaviour response (four items) and moral/ethical impact of green advertising (six items). The environmental behaviour scale comprised 15 items from the original scale, with a further two added to capture consumers' thoughts on littering (17 items). The two added items are "I do my best to not litter" and "I do my best to keep the environment around me clean."

Minton and Rose's (1997:48) scale was used to measure black Generation Y students' environmental concern and comprised 16 items. All scaled

responses made use of a five-point Likert scale, ranging from “strongly disagree (1)” to “strongly agree (5).”

The commonly used Likert scale is a popular scale for measuring attitudes (Schiffman *et al.,* 2010:61) that offers many advantages, including being easy to compile, complete, administer and interpret (Malhotra, 2010:309; Schiffman *et al.,* 2010:61). Chisnall (1992:170) commends the Likert scale for being reliable, which also increases the value of its use. As respondents find the scale easy to understand, it may be used in various interview forms such as mail, telephone, electronic and personal interviews (Malhotra, 2010:309).

In addition to the scaled items, the questionnaire also had a section designed to collect demographic data. Questions in this section were measured using nominal scales.

3.4.3 Layout of the questionnaire

The questionnaire for this study (refer to Annexure A) comprised four sections. Section A (A1-5) was designated to collect demographic data. Section B (B1-33) measured black Generation Y students’ attitudes towards green advertising. Section C (C1-16) measured their environmental concerns and Section D (D1-17) their environmental behaviour.

3.4.4 Pilot testing of the questionnaire

Before a questionnaire can be piloted, it should undergo a pre-test. Malhotra (2010:354) states that questionnaire pre-testing is undertaken to ensure that the questionnaire is understood in the manner that was intended, and free of any obstacles to its completion stemming from language, layout, question difficulty and/or instruction issues. Regardless of the method of survey, the pre-test should be implemented using personal interviews. This allows the researcher to observe and record respondent’s actions and attitudes towards the instrument. Shukla (2008:91) adds that pre-tests and pilot studies aid in the identification and elimination of potential problems.

Once the pre-test is completed, the questionnaire may then be pilot tested. Piloting a questionnaire is a process whereby a small-scale replica of the study is undertaken. A pilot study is undertaken to determine whether the questionnaire represents a reliable instrument. The respondents that form part of the pilot and the pre-test study should resemble the target population in the main study (Iacobucci & Churchill, 2010:223; Zikmund & Babin, 2010:54).

In this study, the questionnaire was pre-tested on four individuals, two of whom were experienced academic researchers and the remaining two, students representative of the target population. All four of these individuals were excluded from the pilot or main sample. The feedback received from the pre-testing stage was used to refine the wording of certain questions in order to make them more understandable.

Once the questionnaire had undergone the pre-testing stage and the necessary changes had been made, the questionnaire was then piloted on a convenience sample of 50 students. This sample was attained from a HEI campus that did not form part of the main sample. The purpose of the pilot test was to determine the reliability of the scales used in the questionnaire. The results from the captured data of the pilot study revealed that if item B32 – “Companies use green advertising to protect their reputations” - was removed, it would result in an increased Cronbach alpha value. The removal of item B32 increased the Cronbach alpha value to 0.645, which, according to Malhotra (2010:319), is considered acceptable. As such, the decision to remove item B32 from the questionnaire transpired. Once the questionnaire was finalised, it was distributed for the main survey.

3.5 QUESTIONNAIRE ADMINISTRATION

For the purpose of this study, a self-administered questionnaire was utilised to gather the required data from the respondents. The main survey was conducted between April 2012 and May 2012.

Lectures at four HEIs were given the questionnaires to hand out to their students during class time. Attached to the questionnaire was a cover letter that explained to respondents the nature and purpose of the study and

provided instructions on how to complete the questionnaire. The lecturers were requested to inform their students that participation in the study was voluntary. The questionnaires were collected upon completion from the relevant lecturers.

3.6 DATA PREPARATION

On completion of the fieldwork, the raw data needs to be processed (Chisnall, 1992:354). The processing steps include data editing, coding and tabulation (Iacobucci & Churchill, 2010:350).

3.6.1 Step 1: Editing

Editing involves ensuring that the data obtained is accurate, complete, conforms to the research objectives, is uniformly entered, and arranged in a simple manner to code and tabulate (Shukla: 2008:95). Questionnaires often go through the editing process twice before the data is captured (McDaniel & Gates, 2001:387; Webb, 2003:193). Ultimately, editing involves checking the questionnaires for errors, illegibility and inconsistencies (Zikmund and Babin, 2010:59).

3.6.2 Step 2: Coding

On completion of the questionnaire editing, the data can be coded. Coding is the process where each particular response of a question is allocated a number or code (Webb, 2003:193). Iacobucci and Churchill (2010:351) define coding as the practice of converting raw data into symbols where responses are placed into different categories or groupings.

This research study's questionnaire was divided into four sections. Section A was designated to collect demographic data, Section B measured attitudes towards green advertising, Section C measured environmental concerns, and Section D environmental behaviour. The questionnaire was pre-coded under the supervision of the study supervisor and with the assistance of a statistician. Data concerning this study was coded per construct as presented in Table 3.1.

Table 3.1: Coding information

TYPE OF DATA	VARIABLE	QUESTION NUMBER
Demographic data	**A1 to A5**	**Section A, Questions A1 to A5**
Attitudes towards green advertising	**B1-B33**	**Section B: Items B1-B33**
Cognitive and effective response to green advertising	B1 to B11	Section B, Items B1 to B11
Response to the companies and their products	B12 to B24	Section B, Items B12 to B24
Specific behaviour response	B25-B28	Section B, Items B25-B28
Moral/ethic impact of green advertising	B29-B33	Section B, Items B29-B33
Environmental concerns	**C1-C16**	**Section C, Items C1-C16**
Environmental behaviour	**D1-D17**	**Section D, Items D1-D17**

3.6.3 Step 3: Tabulation

The final step is tabulation. According to Iacobucci and Churchill (2010:32), tabulation is the process of arranging data in an orderly manner by counting the number of responses allocated to each of the questions. There are various forms of tabulation such as univariate tabulation, bivariate tabulation and multivariate tabulation (Struwig & Stead, 2001:152). This study utilised univariate tabulation, whereby the data were tabulated individually; that is one response for each given question.

3.7 STATISTICAL ANALYSIS

The captured data was analysed with the Statistical Package for Social Sciences (SPSS), Version 20.0 for Microsoft Windows. The following sections outline the statistical methods applied on the empirical data sets.

3.7.1 Descriptive statistics

Descriptive statistics are associated with frequency distributions and are used to summarise the captured data (Malhotra, 2010:486). Descriptive statistical techniques serve to simplify and articulate vast amounts of data for easy

interpretation (Struwig & Stead, 2001:158). Shukla (2008:99) adds that descriptive statistics describe the underlying characteristics of a data set and aid in attaining the objectives of particular research questions.

In this study, the three most commonly used descriptive statistics were computed, namely measures of location (means), measures of variability (standard deviations) and measures of shape (skewness and kurtosis).

3.7.1.1 Measures of location

The measures of location, which are often also referred to as 'measures of central tendency' comprise three statistical measures, namely the mean, the median and the mode (McDaniel & Gates, 2001:410). Measures of location aim to determine the central point of a distribution. A common and widely applied measure of location is the mean, which is the arithmetic average score calculated by summing all variables in a data series and then dividing the total by the number of variables (Malhotra, 2010:486; Zikmund & Babin, 2010:328). The measure of location chosen for this study was the mean.

3.7.1.2 Measures of variability

Measures of variability, also known as 'measures of dispersion', specify the extent to which value scores in a data set are 'spread out'. Variability measures include the range, standard deviation and variance (Struwig & Stead, 2001:158). The standard deviation was the measure of dispersion utilised in this study, and McDaniel and Gates (2001:412) define it as "the square root of the sum of the squared deviations from the mean divided by the number of observations minus 1."

3.7.1.3 Measures of shape

To conduct the advanced statistical techniques, it is necessary to determine the nature of the distribution (Malhotra, 2010:488). The measures of skewness and kurtosis are useful in establishing the normality of a distribution (Shukla, 2008:101). A distribution that resembles an upside down bell that is

relatively symmetric in shape is indicative of a normal distribution, or a distribution approximating normality (Malhotra, 2010:405).

Skewness refers to the degree of deviation from the mean in one direction or the other. Distributions may present as positive, negative or symmetrical (Malhotra, 2010:488). A positive distribution skews to the left, while a negative distribution skews to the right of the curve (Shukla, 2008:101).

Kurtosis measures the extent to which a distribution exhibits relative peakedness or flatness. A normal distribution kurtosis equates to zero (Malhotra, 2010:488). Negative kurtosis values indicate that the distribution is flatter than that of a normal distribution, while positive values indicate the distribution to be more peaked than that of the normal distribution (Shukla, 2008:101; Malhotra, 2010:489).

3.7.2 Reliability

In research, reliability is the term used to indicate whether a multi-item scale returns consistent results in repeated measurements (Malhotra, 2010:318). When this criterion is met, a scale is considered reliable (McDaniel & Gates, 2001:254; Shukla, 2008:83). Struwig and Stead (2001:130) define reliability as test scores that are “accurate, consistent or stable”.

In the case of summated scales, such as those used in this study, internal consistency reliability is utilised in order to determine the reliability of a scale. The split-half reliability measure of internal consistency involves dividing the scale items in half according to odd or even numbered items or randomly, and then correlating the resulting half scores (Malhotra, 2010:319). The Cronbach alpha technique is a popular measure of internal consistency (Shukla, 2008:84) and entails splitting items in a scale in every possible manner, calculating the correlation coefficient of each split and then computing the mean of all possible split-half coefficients (McDaniel & Gates, 2001:256; Malhotra, 2010:319). The coefficient determines whether items correlate with one another, and ranges in value from zero, indicating no correlation between items, to one, indicating perfect correlation of the scale items. Scales that yield coefficient values ranging between 0.80 and 0.96 are classified as

having excellent reliability, whereas coefficient values ranging between 0.70 and 0.80 are deemed as good reliability, and coefficient values ranging between 0.60 and 0.70 are considered acceptable (Malhotra, 2010:319; Zikmund & Babin, 2010:248). Scales that score coefficient values of 0.6 and below are considered to have unacceptable reliability (Malhotra, 2010:319; Zikmund & Babin, 2010:248).

As indicated previously, the three scales used in this study were adopted from previous studies, where each achieved a 0.70 or higher Cronbach alpha value, indicating that the scales are reliable and suitable for this study (Haytko & Matulich, 2008; Minton & Rose, 1997).

Struwig and Stead (2001:130) assert that it is vital to determine a scale's reliability before attempting to study its validity, as validity is dependent on reliability; therefore, a poor reliability score will also yield a poor validity score.

3.7.3 Validity

Validity is the extent to which a measure truthfully represents the characteristics being measured (Zikmund & Babin, 2010:250). In other words, by testing a scale's validity it is possible to determine whether the scale is actually measuring what it is intended to measure. A scale that represents perfect validity contains zero measurement errors (Shukla, 2008:82). A scale that is not valid is of no empirical value because it does not measure what it is intended to measure. Validity takes many forms, such as face validity, content validity, criterion validity and construct validity, and these are discussed next.

3.7.3.1 Content validity

Content validity, also known as face validity, represents a weaker measure of validity. Content validity is a subjective measure of how well the content of the scale represents the theoretical construct being measured (Shukla, 2008:82; McDaniel & Gates, 2001:260).

3.7.3.2 Criterion validity

Criterion validly indicates whether the measurement scale performs as it was intended to perform, in relation to other important variables with similar criteria (Shukla, 2008:82). According to McDaniel and Gates (2001:261), criterion validity tries to assert the presence or lack of one or more criterion that represents the constructs of the interested topic.

3.7.3.3 Construct validity

Construct validity deals with what construct or characteristic the scale is actually measuring (Malhotra, 2010:320). Shukla (2008:82) agrees, stating that construct validity answers the question of what the scale is measuring and determines whether deductions can be made from the concerning theory. Therefore, construct validity bridges the gap between the scale and the theory. Construct validity is categorised into two subsections namely, convergent validity and discriminant validity.

Convergent validity, according to Struwig and Stead (2001:142), is realised when two or more tests correlate well with each other, when measuring similar or identical constructs. In contrast, discriminant validity refers to how a measure differs from constructs from which it is intended to differ (McDaniel & Gates, 2001:262), and involves proving a lack of correlation among constructs that differ (Malhotra, 2010:321).

3.7.4 Confirmatory factor analysis

Factor analysis is unique in the sense that unlike most other statistical techniques, it does not involve testing hypotheses (Pallant, 2007:179). Rather, factor analysis focuses on reducing or summarising a large set of variables into a smaller set of factors (Mountinho & Meidan, 2003:200; Pallant, 2007:179). This is done by seeking inter-correlations that group together in a set of variables (Pallant, 2007:179). Malhotra (2010:637) states that exploratory factor analysis is used for a number of reasons, including, for example, the identification of underlying variables for market segmentation purposes, determining consumers' determinant brand attributes, determining

a target market's media habits and uncovering the traits of price-sensitive consumers. Pallant (2007:179) adds that exploratory factor analysis is also an important tool in the development and validation of measuring scales.

In contrast to exploratory factor analysis, confirmatory factor analysis is used to ascertain whether items in a scale load as expected on their relevant factors, thereby verifying the factor structure of the indicator variables (Malhotra, 2010:727). This study uses confirmatory factor analysis to assess whether the items in the attitudes towards green advertising scale, load as expected, based on the Haytko and Matulich (2008) study.

3.7.5 Tests of significance

Hypothesis testing is undertaken once the data has been processed and is ready for analysis. A hypothesis is an unproven statement developed to explain a phenomenon (Shukla, 2008:102; 105; Sciglimpaglia, 2010:147).

Hypothesis testing comprises outlining the hypothesis, including formulating the null hypothesis (H_0) and the alternative hypothesis (H_a), selecting an appropriate statistical technique and significance level, collecting a relevant sample of data, performing the test, determining the probability associated with the calculated test statistic under the null hypothesis. Following this, it is necessary to compare the test statistic's probability with the specified significance level and, accordingly, make the decision of whether to reject, or not to reject the null hypothesis and state the findings in the conclusion (McDaniel & Gates, 2001:415; Malhotra, 2010:489). For this study, seven hypotheses were formulated and the significance level was set at $a = 0.05$. A discussion on the statistical techniques used to test these hypotheses follows.

3.7.5.1 Correlation analysis

Correlation analysis attempts to determine whether changing effects of one variable are related to changes of another variable (McDaniel & Gates, 2001:448). There are multiple correlation techniques such as the Spearman's rho, Point-biserial correlation coefficient or the Phi coefficient. Pearson's Product-Moment correlation coefficient (r) is the most suitable technique for

calculating the strength of association between two metric variables (Struwig & Stead, 2001:140). The measure ranges from –1 to +1, with *r* denoting the level of strength of association between two variables. When a perfect positive relationship appears between two variables, the correlation coefficient equals +1, whereas a –1 value indicates a perfect negative relationship between two variables. If there is no relationship between two variables, *r* equals zero or lies close to it (Berndt & Petzer, 2011:239). This study applied correlation analysis in order to determine the relationship between black Generation students' attitudes towards green advertising, their environmental concerns and their environmental behaviour.

According to Pallant (2007:132), the strength of a relationship depends on the size (whether positive or negative) of the correlation value, where a value of 0.10 to 0.29 represents a small relationship, a value of 0.30 to 0.49 indicates a medium relationship and a value of 0.50 to 1.0 indicates a strong relationship between the variables.

3.7.5.2 Regression analysis

Whereas correlation analysis involves determining the direction (positive or negative) and strength of a linear association between two variables (Pallant, 2007:132), the procedure used to determine whether one variable can predict another is regression analyses (Field, 2009:198). Regression analysis involves determining the influence of one or more predictor variable on one dependent metric variable, or the influence of one predictor variable on one or more dependent metric variables (Malhotra, 2010:568). Regression analysis comprises bivariate or simple regression, as well as multiple regression analysis (Field, 2009:198; Malhotra, 2010:595-596).

Bivariate analysis involves determining the influence of one independent variable on one dependent variable (Field, 2009:198). This analysis aims to determine the magnitude of a relationship between the independent and dependent variables making use of a statistical linear format (McDaniels & Gates, 2001:437). Sudman and Blair (1998:492) add that bivariate regression is an extended adaptation of correlation analysis, where measurements are

not only limited to the correlation of two variables but also include measures of the linear relationship between the two variables. For the purpose of this study, bivariate analysis was the regression method deemed suitable to measure the concerning variables.

Multiple regression analysis is the adaptation of simple regression analysis. This type of regression analysis seeks to determine the influence of several independent variables on a dependent variable (Field, 2009:198). These multiple variables can be measured simultaneously on an interval-scale (Zikmund & Babin, 2010:390). Churchill (1995:905) states the aim of measuring additional variables is to increase the reliability of measures from the concerned criterion variables. For example, sales the dependent variable can be explained by independent variables such as price, the economy, advertising strategies and consumer income (Zikmund & Babin, 2010:390).

3.7.5.3 T-tests

T-tests are versatile statistical techniques for testing the differences between means (Zikmund & Babin, 2010:378; Pallant, 2007:103). A one-sample t-test involves comparing a sample's mean against an expected mean (Malhotra, 2010:504). The independent sample t-test measures the possible variations between means that have been taken from two independent population samples or groups. (Zikmund & Babin, 2010:378). A paired sample t-test involves determining the difference in the means of two separate observations taken from one sample drawn from the same population (Malhotra, 2010:503). For the purpose of this study, a one-sample t-test and an independent sample t-test were conducted.

3.7.5.4 Cohen's D-statistic

While t-tests may be employed to determine whether a statistically significant difference exists between means, Cohen's D-statistic needs to be computed to determine whether that difference is practically significant (Ofori-Dankwa & Tierman, 2002:280). Cohen's D-statistic involves applying the effect size to determine practical significance (Churchill & Iacobucci, 2002:665). According

to Ofori-Dankwa and Tierman (2002:280), the guidelines for interpreting Cohen's D-statistic are as follows:

- $0.20 \leq d \leq 0.50$: denotes a small, relatively non-significant effect
- $0.50 \leq d \leq 0.80$: denotes a medium-sized effect steering towards practical significance
- $0.80 \leq d$: denotes a large effect that has attained practical significance.

3.8 SYNOPSIS

This chapter encompassed the research methodology utilised in the study, which followed the descriptive research design, using the cross-sectional approach.

The survey method, using a self-administered questionnaire, was deemed the best choice of data collection method for this study. This chapter discussed the distribution and administration methods, and the applications of various statistical procedures. The chapter that follows comprises of the research data that was obtained during the study, this data is analysed and interpreted in the chapter.

CHAPTER 4

ANALYSIS AND INTERPRETATION OF EMPIRICAL FINDINGS

4.1 INTRODUCTION

This chapter reports on the analysis and interpretation of the empirical study. The chapter includes a summary of the results obtained from the pilot test in Section 4.2 and the preliminary data analyses in Section 4.3. Section 4.4 discusses the descriptive analysis of the data sets, including the reliability and validity of the main survey. Section 4.5 comprises the different inferential statistics utilised in this study.

The data analysis was conducted using SPSS Version 20.0 for Windows. The data analysis was conducted in two stages. The first stage involved analysing the results of the pilot testing of the questionnaire and the second stage involved analysing the main survey's findings. The next section describes the data analysis procedures involved in the pilot phase.

4.2 PILOT TESTING RESULTS OF QUESTIONNAIRE

The questionnaire was piloted on a convenience sample of 50 students at a HEI campus that did not form part of the sampling frame of the main study, as to assert the reliability of the scales used the questionnaire. Table 4.1 presents the results captured during the pilot test.

Table 4.1: Summary of the pilot testing results

Items	Number of items	Cronbach alpha	Average inter-item correlation
Scale B: Attitudes towards green advertising	33	0.808	0.114
Construct B1	11	0.734	0.197
Construct B2	13	0.773	0.214
Construct B3	4	0.817	0.543
Construct B4	5	0.645	0.070
Scale C: Environmental concerns	16	0.831	0.265
Scale D: Environmental behaviour	17	0.904	0.359

The green advertising scale (B1-B33) returned a Cronbach alpha value of 0.808 for the attitudes, and the Cronbach alphas of the constructs within this scale ranged from 0.645 to 0.817. The environmental concern scale (C1-C16) returned a Cronbach alpha value of 0.831, and the environmental behaviour scale (D1-D17) a Cronbach alpha value of 0.904. The recorded reliability of all scales exceeds the acceptable Cronbach alpha level of 0.60 (Zikmund & Babin, 2010:248). All the average inter-item correlation values fell within the recommended range of 0.15 and 0.50 (Spiliotopoulou, 2009:12), except for Construct B4, the moral/ethical impact of green advertising construct (0.070) in the attitude towards green advertising scale and the environmental concern scale (0.114). Despite the fact that these two scales fell outside the inter-item range, it was decided to carry on with the study since the scales have proven to be robust measuring instruments in the previous studies of Haytko and Matulich (2008), and Minton and Rose (1997).

4.3 PRELIMINARY DATA ANALYSIS

A preliminary data analysis was conducted on the data set before analysing the data. This was done using the coding and tabulation process.

4.3.1 Coding

The process of coding involves assigning numeric codes to each of the responses for each question or item in the questionnaire (McDaniel & Gates, 2001:393). The questionnaire used in this study comprised four sections, namely Section A – demographical data, Section B – attitudes towards green advertising, Section C – environmental concerns and Section D – environmental behaviour. All the respondents within the sample received the same questionnaire.

Table 4.2 presents the variable codes and assigned values.

Table 4.2: Coding

Question	Code	Variable	Value assigned to responses
Section A: Demographical data			
Question 1	A1	Name of institution	A (1); B (2); C (3); D (4)
Question 2	A2	Year of study	1st (1); 2nd (2); 3rd (3); Post-graduate (4)
Question 3	A3	Gender	Male (1); Female (2)
Question 4	A4	Ethnicity	African (1); Asian (2); Coloured (3); White (4); Indian (5)
Question 5	A5	Age	17 (1); 18 (2); 19 (3); 20 (4); 21 (5); 22 (6); 23 (7); 24 (8); 26 (9)
Section B: Attitudes towards green advertising scale			
Item	**Code**	**Construct**	**Value assigned to responses**
Item 1	B1	Construct B1: Cognitive and affective response to green advertising	Strongly disagree (1)
Item 2	B2 R		Disagree (2)
Item 3	B3		Neutral (3)
Item 4	B4		Agree (4)
Item 5	B5		Strongly agree (5)
Item 6	B6		
Item 7	B7 R		
Item 8	B8 R		
Item 9	B9		
Item 10	B10 R		
Item 11	B11 R		
Item 12	B12	Construct B2: Response to companies and their products	Strongly disagree (1)
Item 13	B13		Disagree (2)
Item 14	B14		Neutral (3)
Item 15	B15		Agree (4)
Item 16	B16		Strongly agree (5)
Item 17	B17		
Item 18	B18		
Item 19	B19		
Item 20	B20		
Item 21	B21		
Item 22	B22		
Item 23	B23		
Item 24	B24		

Table 4.2: Coding (Continued ...)

Item	Code	Construct	Value assigned to responses
Item 25	B25	Construct B3: Specific behaviour response	Strongly disagree (1)
Item 26	B26		Disagree (2); Neutral (3)
Item 27	B27		Agree (4)
Item 28	B28		Strongly agree (5)
Item 29	B29 R	Construct B4:	Strongly disagree (1)
Item 30	B30 R	Moral/ethic impact of green advertising	Disagree (2)
Item 31	B31 R		Neutral (3)
Item 32	B32 R		Agree (4)
Item 33	B33 R		Strongly agree (5)
Note: R refers to reverse scored questions			
Section C: Environmental concern scale			
Item	**Code**	**Construct measured**	**Value assigned to responses**
Item 1	C1	Environmental concerns	Strongly disagree (1)
Item 2	C2		Disagree (2)
Item 3	C3		Neutral (3)
Item 4	C4 R		Agree (4)
Item 5	C5		Strongly agree (5)
Item 6	C6		
Item 7	C7		
Item 8	C8		
Item 9	C9		
Item 10	C10		
Item 11	C11		
Item 12	C12		
Item 13	C13		
Item 14	C14		
Item 15	C15		
Item 16	C16 R		
Note: R refers to reverse scored questions			

Table 4.2: Coding (Continued ...)

Section D: Environmental behaviour scale			
Item	**Code**	**Construct measured**	**Value assigned to responses**
Item 1	D1	Environmental behaviour	Strongly disagree (1)
Item 2	D2		Disagree (2)
Item 3	D3		Neutral (3)
Item 4	D4		Agree (4)
Item 5	D5		Strongly agree (5)
Item 6	D6		
Item 7	D7		
Item 8	D8		
Item 9	D9		
Item 10	D10		
Item 11	D11		
Item 12	D12		
Item 13	D13		
Item 14	D14		
Item 15	D15		
Item 16	D16		
Item 17	D17		

4.3.2 Tabulation of variables

Once the data has been coded, the next step is to tabulate the data. This is the process of arranging data in an orderly manner, usually in the form of a table or some summary format, which shows the number of responses in each response category (Zikmund & Babin, 2010:335). Table 4.3 presents the frequency table for black Generation Y students' attitudes towards green advertising, environmental concerns and environmental and behaviour.

Table 4.3: Frequency table of responses

Scale B: Attitude towards green advertising					
Scale item	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
B1	13	4	55	113	110
B2	32	88	135	33	7
B3	7	16	42	119	111
B4	6	8	49	126	106
B5	5	9	73	117	91
B6	10	15	89	117	64
B7	6	16	69	118	86
B8	6	18	104	106	61
B9	6	18	63	120	88
B10	8	28	53	134	72
B11	5	4	30	124	132
B12	7	41	121	89	37
B13	6	15	85	129	60
B14	7	6	45	146	91
B15	4	25	92	131	43
B16	8	21	132	100	34
B17	4	22	128	99	42
B18	22	51	109	82	31
B19	3	13	67	129	83
B20	10	16	100	110	59
B21	12	39	136	86	22
B22	9	32	127	87	40
B23	8	42	108	89	48
B24	7	30	128	89	41
B25	12	46	110	93	34
B26	7	48	92	114	34
B27	25	54	100	86	30
B28	5	28	113	100	49
B29	21	52	95	77	50
B30	10	33	133	81	38

Table 4.3: Frequency table of responses (continued ...)

Scale B: Attitude towards green advertising					
Scale item	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
B31	29	104	108	34	20
B32	33	88	95	62	17
B33	35	65	97	67	31
Scale C: Environmental concerns					
Scale item	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
C1	18	16	37	100	124
C2	8	15	71	119	82
C3	16	12	49	97	121
C4	56	98	62	55	24
C5	9	17	49	93	127
C6	7	14	50	97	127
C7	3	9	52	128	103
C8	63	44	56	55	77
C9	30	24	69	71	101
C10	8	15	59	105	108
C11	4	12	40	111	128
C12	7	15	77	102	94
C13	11	23	50	100	111
C14	37	43	71	74	70
C15	9	15	50	105	116
C16	18	20	42	75	140
Scale D: Environmental behaviour					
Scale item	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
D1	52	44	79	80	40
D2	14	42	91	85	63
D3	12	43	119	77	44

Table 4.3: Frequency table of responses (continued ...)

Scale D: Environmental behaviour					
Scale item	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
D4	3	27	130	93	42
D5	5	12	75	127	76
D6	9	52	99	77	58
D7	10	73	134	48	30
D8	11	54	118	74	38
D9	51	66	82	68	28
D10	18	43	118	63	53
D11	12	47	105	87	44
D12	13	58	121	76	27
D13	9	22	103	108	53
D14	9	38	112	104	32
D15	17	49	96	92	41
D16	7	12	43	111	122
D17	6	12	36	103	138

4.3.3 Data gathering process

In accordance with the sampling plan set out in Chapter 3, 400 self-administered questionnaires were hand-delivered to lecturers at the selected four registered public HEI campuses (100 questionnaires per HEI) who had agreed to distribute the questionnaire to students, either during class time or after class. The questionnaire included a cover letter explaining the purpose of the study. Participation in the study was on a voluntary basis.

Of the 400 questionnaires handed out, 302 were returned completed, which indicates a 76 percent response rate. Any questionnaires completed by non-black students or students falling out of the specified 18 to 24 year age range were discarded. This left 295 viable questionnaires, which translates into an actual response rate of 74 percent. HEI A returned 92 questionnaires, HEI B 47 questionnaires, HEI C 77 questionnaires and HEI D 79 questionnaires. As

indicated previously, two of these institutions (HEI A and B) are country-based and two are city-based (HEI C and D). HEI B is a university of technology, while the remaining institutions are traditional universities.

Section 4.4 provides an overview of the descriptive statistics computed in this study.

4.4 DESCRIPTIVE ANALYSIS

Descriptive statistics involves raw data being transformed in a way that defines and outlines the basic characteristics and includes measures of location, variability and shape (Sciglimpaglia, 2010:139; Zikmund & Babin, 2010:354). The descriptive statistics of this study's sample are set out below. This section begins with a description of the sample and concludes with a discussion on the reliability and validity of the research instrument used in the final study.

4.4.1 Sample description

The sample comprised 289 undergraduate students and six post-graduate students in the Gauteng province of South Africa. As illustrated in Figure 4.1, there are more female (59%) than male (41%) respondents in the sample, with 0.3 percent missing. Note figures have been rounded off to nearest second decimal.

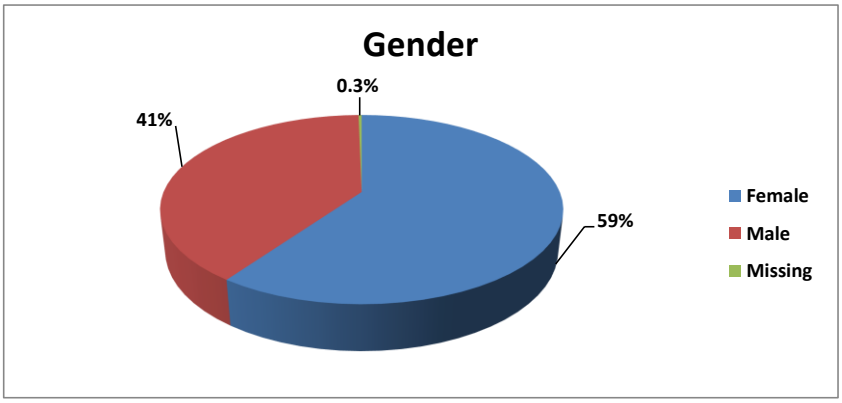

Figure 4.1: Gender profile of sample

Figure 4.2 indicates the respondents' current year of study, where 67 percent were first–year students, 12 percent second-year students, 19 percent third-year students and 2 percent postgraduate students.

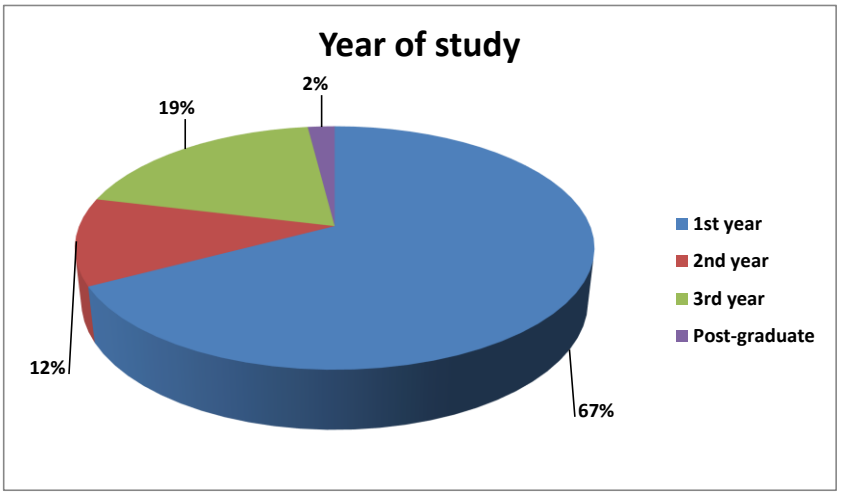

Figure 4.2: Current year of study

According to Figure 4.3, the majority of the respondents indicated being 19 years of age (26%), followed by those who indicated being 18 years of age (24%) and 20 years of age (24%). Of the remaining respondents, 14 percent were 21 years of age, 6 percent 22 years of age, 3 percent 23 years of age and 2 percent 24 years of age.

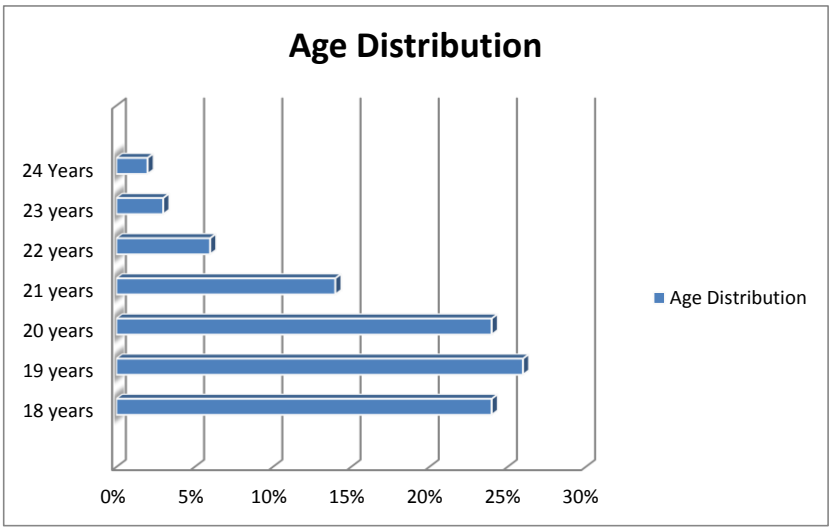

Figure 4.3: Age distribution of sample

Figure 4.4 indicates the number of responses obtained from each of the four HEIs. Country-based university A had the highest response rate at 31 percent of the overall response. The three traditional universities collectively comprised 84 percent of the total response and 16 percent came from a university of technology.

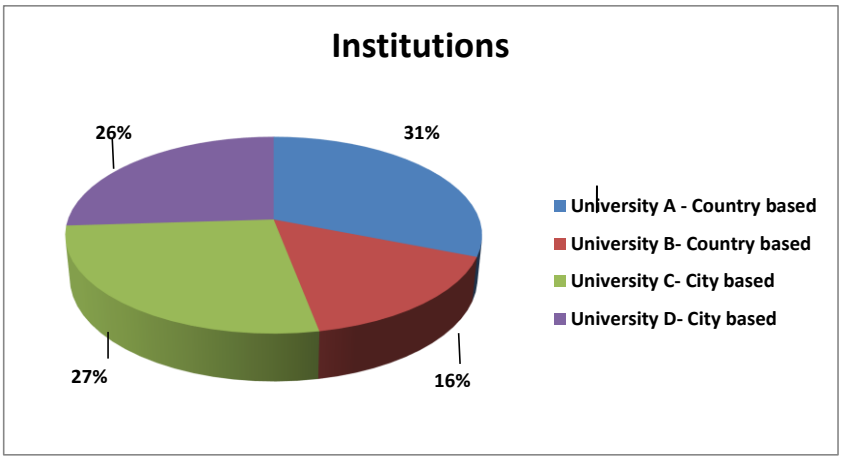

Figure 4.4: Response rate of institutions

4.4.2 Descriptive statistics

Measures of location, variability and shape were calculated across all scaled items. Given the five-point Likert scale used ranged from 1 = strongly disagree to 5 = strongly agree, higher mean values are associated with more positive attitudes towards green advertising, environmental concerns and environmental behaviour amongst the sampled black Generation Y students. Note that negatively framed items were reverse-scored.

Table 4.4 presents these descriptive statistics.

Table 4.4: Descriptive statistics summary

Items	Valid N	Mean	Standard deviation	Skewness	Kurtosis
Scale B: Attitude towards green advertising					
	295	3.53	0.40	-0.466	1.322
Construct B1	295	3.82	0.46	-0.653	1.294
B1	295	4.03	1.01	-1.183	1.432
B2	295	2.64	0.90	0.066	-0.009
B3	295	4.05	0.97	-1.086	0.954
B4	295	4.08	0.90	-1.050	1.324
B5	295	3.95	0.91	-0.686	0.381
B6	295	3.71	0.97	-0.621	0.333
B7	295	3.89	0.96	-0.712	0.259
B8	295	3.67	0.94	-0.343	-0.088
B9	295	3.90	0.97	-0.760	0.285
B10	295	3.79	1.00	-0.793	0.216
B11	295	4.27	0.83	-1.402	2.803
Construct B2	295	3.54	0.53	-0.263	1.083
B12	295	3.37	0.95	-0.076	-0.316
B13	295	3.75	0.91	-0.571	0.375
B14	295	4.04	0.87	-1.147	2.035
B15	295	3.62	0.88	-0.410	0.019
B16	295	3.44	0.89	-0.228	0.296
B17	295	3.52	0.88	-0.057	-0.115

Table 4.4: Descriptive statistics summary (continued ...)

Items	Valid N	Mean	Standard deviation	Skewness	Kurtosis
B18	295	3.17	1.07	-0.185	-0.469
B19	295	3.94	0.88	-0.627	0.226
B20	295	3.65	0.97	-0.510	0.205
B21	295	3.23	0.91	-0.197	0.109
B22	295	3.40	0.96	-0.137	-0.129
B23	295	3.43	1.01	-0.147	-0.505
B24	295	3.43	0.93	-0.099	-0.142
Construct B3	295	3.35	0.77	-0.267	-0.183
B25	295	3.31	1.00	-0.200	-0.353
B26	295	3.41	0.97	-0.285	-0.459
B27	295	3.14	1.10	-0.207	-0.583
B28	295	3.54	0.94	-0.174	-0.297
Construct B4	295	3.02	0.72	-0.073	-0.111
B29	295	3.28	1.15	-0.176	-0.726
B30	295	3.35	0.96	-0.101	-0.082
B31	295	2.70	1.02	0.452	-0.104
B32	295	2.80	1.07	0.133	-0.652
B33	295	2.98	1.16	-0.013	-0.759
Scale C: Environmental concern					
	295	3.80	0.55	-0.593	0.835
C1	295	4.00	1.15	-1.204	0.74
C2	295	3.85	0.97	-0.75	0.397
C3	295	4.00	1.11	-1.143	0.766
C4	295	2.64	1.22	0.358	-0.871
C5	295	4.06	1.05	-1.057	0.55
C6	295	4.09	1.00	-1.058	0.697
C7	295	4.08	0.86	-0.842	0.722
C8	295	3.13	1.49	-0.141	-1.387
C9	295	3.64	1.30	-0.652	-0.622
C10	295	3.98	1.01	-0.908	0.448
C11	295	4.18	0.91	-1.122	1.101

Table 4.4: Descriptive statistics summary (continued ...)

Items	Valid N	Mean	Standard deviation	Skewness	Kurtosis
C12	295	3.88	0.99	-0.668	0.06
C13	295	3.94	1.09	-0.934	0.199
C14	295	3.33	1.32	-0.329	-0.997
C15	295	4.03	1.02	-1.045	0.71
C16	295	4.01	1.20	-1.118	0.292
Scale D: Environmental behaviour					
	295	3.42	0.59	-0.044	0.432
D1	295	3.04	1.29	-0.190	-1.03
D2	295	3.48	1.12	-0.305	-0.639
D3	295	3.33	1.03	-0.098	-0.409
D4	295	3.49	0.88	0.036	-0.298
D5	295	3.87	0.90	-0.64	0.399
D6	295	3.42	1.08	-0.099	-0.789
D7	295	3.05	0.98	0.339	-0.211
D8	295	3.25	1.02	0.005	-0.477
D9	295	2.85	1.23	0.032	-0.972
D10	295	3.31	1.11	-0.101	-0.552
D11	295	3.35	1.05	-0.17	-0.515
D12	295	3.16	0.99	-0.019	-0.349
D13	295	3.59	0.97	-0.415	0.018
D14	295	3.38	0.95	-0.267	-0.158
D15	295	3.31	1.08	-0.250	-0.549
D16	295	4.12	0.96	-1.156	1.188
D17	295	4.20	0.95	-1.287	1.479

As can be seen from Table 4.4, all scales may be classified as normally distributed, since none of the skewness scores fall outside the -2 or +2 range. Regarding the peakedness of the data distribution, kurtosis values provide no indication of irregular values and; therefore, the data may be classified as normally distributed.

Means above 3 were computed on each of the four constructs in the attitudes towards advertising scale as well as for the overall Scale B. Similarly, means above 3 were computed for both environmental concerns and environmental behaviour. This suggests that the black Generation Y consumers have a positive attitude towards green advertising, are environmentally concerned and behave in an environmentally responsible manner. In the attitudes towards green advertising scale, Construct B1 scored the highest mean (Mean=3.82), which suggests that black Generation Y students have a positive cognitive and emotional response to green advertising. The next highest mean was recorded on Construct B2, followed by Construct B3, which suggests that respondents have a positive attitude towards companies and their products that have a green advertising theme and a preference for products and services advertised as being green. The lowest mean (Mean=3.02) was recorded Construct B4, which comprised negatively worded items pertaining to green advertising being morally and ethically reprehensible. This indicates that the respondents do not particularly consider green advertising morally or ethically deplorable. The highest standard deviations, indicating less agreement amongst respondents, were computed on Construct B3 (specific behaviour responses to green advertising) (Std. Dev.=0.77) and Construct B4 (moral/ethical impact of green advertising) (Std. Dev.=0.72), while the lowest standard deviation, indicating greater agreement amongst respondents, was recorded on Construct B1 (cognitive and affective response to green advertising) (Std. Dev.=0.46).

The environmental concern scale scored a mean value of 3.80 and a standard deviation value of 0.55. This suggests that black Generation Y students are concerned for the environment and that there is relatively strong agreement amongst them regarding this concern. The environmental behaviour scale scored the lowest mean (Mean=3.42), and the highest standard deviation (Std. Dev.=0.59) of the three scales. This suggests that that while black Generation Y students are concerned about the environment, they are less concerned about how their own behaviour influences the environment. In looking at the individual items in this scale, it appears that the lower recorded mean is a product of financial issues and inconvenience, with the lowest

means recorded on paying extra for green electricity (Mean=2.85), paying an environmental tax (Mean=3.04) and not using aerosol containers (Mean=3.05).

4.4.3 Validity and reliability of the main study

The Cronbach alpha and the average inter-item correlation were the measures computed in this study in order to ascertain the reliability and validity of the scales used in the measuring instrument. This section reports on both the validity and reliability measures found within the main study.

Table 4.6 provides a summary of the validity and reliability measures of the research instrument that was utilised in this study.

Table 4.5: Reliability and validity measures of the scales in the main study

		Number of items in scale	Cronbach alpha	Average inter-item correlation
Scale B:	**Attitudes towards green advertising**	33	0.846	0.144
Construct B1		11	0.676	0.157
Construct B2		13	0.822	0.266
Construct B3		4	0.765	0.451
Construct B4		5	0.688	0.306
Scale C:	**Environmental concerns**	16	0.788	0.208
Scale D:	**Environmental behaviour**	17	0.871	0.285

As shown in Table 4.5, a Cronbach alpha of 0.846 was computed on the attitudes towards green adverting scale and the Cronbach alphas for the individual constructs within this scale ranged between 0.676 and 0.822. The Cronbach alpha for the environmental concerns scale was recorded as 0.788 and that for the environmental behaviour scale as 0.871. As all of these values exceed the acceptable level of 0.60 (Zikmund & Babin, 2010:248), the scales in this study are deemed reliable.

In order to establish construct validity, the average inter-item correlation was computed, where values ranging from 0.15 and 0.50 indicate convergent and discriminant validity (Spiliotopoulou, 2009:12). With the exception of the attitudes towards advertising scale, the constructs within Scale B, as well as the environmental concerns scale and the environmental behaviour scale, all scored average inter-item correlation values within the recommended range. An average inter-item correlation value of 0.144 was computed for the attitudes towards advertising scale, which was viewed as being sufficiently close to the 0.15 level. This suggests that the items in the scales, as well as the items within the individual constructs in Scale B, "are both sufficiently correlated to suggest convergent validity, yet not so highly correlated from measures from which they are intended to differ, which indicates the presence of discriminant validity" (Iacobucci & Churchill, 2010:258).

In addition to conducting a reliability and validity analysis, a confirmatory factor analysis was conducted on the attitudes towards green advertising scale, which is discussed in the following section.

4.4.4 Confirmatory factor analysis

Haytko and Matulich (2008:4) conducted an exploratory factor analysis to assess the dimensionality of attitudes towards green advertising. As this study utilised the same scale, a confirmatory factor analysis, using the varimax rotation, was undertaken to ascertain whether the items in the scale loaded the same in the South African context.

As expected, four factors emerged with eigenvalues greater than 1.0. These four factors explained 39.83 percent of the variance. However, certain items in the current study loaded differently to those in the original study.

Table 4.6 presents the factor loadings from the Haytko and Matulich (2008:4) study, together with the factor loadings of the current study.

Table 4.6: Confirmatory factor analysis results

Items	Factors in the Haytko and Matulich (2008) study	Factors in the current study			
		F1	F2	F3	F4
B1	1		0.632		
B2	1			**0.206**	
B3	1		0.628		
B4	1		0.712		
B5	1		0.548		
B6	1		0.528		
B7	1			**0.465**	
B8	1			**0.493**	
B9	1		0.669		
B10	1			**0.555**	
B11	1			**0.501**	
B12	2	0.522			
B13	2	0.599			
B14	2		**0.494**		
B15	2	0.513			
B16	2	0.570			
B17	2	0.568			
B18	2	0.409			
B19	2	0.428			
B20	2				**0.349**
B21	2	0.652			
B22	2	0.641			
B23	2	0.456			
B24	2	0.585			
B25	3				0.664
B26	3				0.726
B27	3				0.693
B28	3				0.733
B29	4			0.671	
B30	4			0.580	
B31	4			0.417	
B32	4			0.499	
B33	4			0.657	

As is evident from Table 4.6, the items in Construct B3 and Construct B4 loaded as expected on Factor 3 and Factor 4, respectfully. While most of the items in Construct B2 loaded on Factor 1, Item B14 loaded on Factor 2 and Item B20 loaded on Factor 4. Of the 11 items in Construct B1, six loaded on Factor 1 and five on Factor 2.

While several of the items did not load as expected (these items are shown in bold), four factors did emerge and there is not enough evidence to disregard the factor model of Haytko and Matulich (2008).

The following section discusses the tests of significance undertaken in this study.

4.5 TESTS OF SIGNIFICANCE

In order to achieve the empirical objectives and test the hypotheses set out in Chapter 1, several tests of significance were undertaken, including correlation analysis, regression analysis and t-tests. For each of these tests, the significance level is set at the conventional 5 percent level; that is, *a*=0.05 and the decision rule is as follows:

- If p-value ≥ α, conclude Ho
- If p-value < α, conclude Ha

4.5.1 One sample t-test

In order to address the first empirical objective formulated in Chapter 1, a one-tailed one-sample t-test was conducted to determine whether black Generation Y students have a statistically significant positive attitude towards green advertising, are environmentally concerned and behave in a pro-environmental manner. The expected mean was set at X>3. The hypotheses were formulated as follows:

H_o1: Black Generation Y students do not have a positive attitude towards green advertising.

H_a1: Black Generation Y students do have a positive attitude towards green advertising.

H_o2: Black Generation Y students are not environmentally concerned.

H_a2: Black Generation Y students are environmentally concerned.

H_o3: Black Generation Y students do not behave in a pro-environmental manner.

H_a3: Black Generation Y students do behave in a pro-environmental manner.

Table 4.7 reportns on the calculated t-values and p-values.

Table 4.7: Black Generation Y students' attitudes towards green marketing, environmental concerns and environmental behaviour

	Mean	Standard Deviation	Standard error	t-value	p-value
Attitude towards green advertising	3.53	0.4	0.02	22.758	0.000*
Environmental concerns	3.8	0.55	0.03	24.983	0.000*
Environmental behaviour	3.42	0.59	0.03	12.227	0.000*

*Significant at the 0.05 level (1-tailed)

As is evident from Table 4.7, a p-value of $p<0.05$ was computed on the attitude towards green marketing. As such, H_o1 is rejected and Ha1 concluded. Black Generation Y students do appear to have a statistically significant positive attitude towards green advertising ($p=0.000<0.05$). Likewise, a p-value of $p<0.05$ was computed on environmental concerns. Therefore, H_o2 is rejected and H_a2 concluded. Black Generation Y students do appear to exhibit a statistically significant concern for the environment ($p=0.000<0.05$). Concerning their environmental behaviour, a p-value of $p<0.05$ was again computed and, consequently, H_o3 is rejected and H_a3 concluded. Black Generation Y students appear to behave in a pro-environmental manner.

4.5.2 Correlation analysis

Correlation analysis was undertaken to address the second empirical objective formulated in Chapter 1. In order to determine whether there is a relationship between black Generation Y students' attitudes towards green advertising and their environmental concerns and environmental behaviour, Pearson's Product-Moment correlation coefficient was computed.

The hypothesis was formulated as follows:

$H_0$4: There is no relationship between black Generation Y students' attitudes towards the green marketing advertising and their environmental concerns and environmental behaviour.

H_a4: There is a relationship between black Generation Y students' attitudes towards the green marketing advertising and their environmental concerns and environmental behaviour.

Table 4.8 reports on the results of the correlation analysis.

Table 4.8: Relationship between attitudes towards green advertising and environmental concerns and environmental behaviour

N=295	Attitudes towards green advertising	Environmental concerns	Environmental behaviour
Attitudes towards green advertising			
Pearson's correlation	1	0.453	0.524
Significance		0.000*	0.000*
Environmental concerns			
Pearson's correlation	0.453	1	0.535
Significance	0.000*		0.000*
Environmental behaviour			
Pearson's correlation	0.524	0.535	1
Significance	0.000*	0.000*	
*Significant at the 0.05 level (2-tailed)			

As is evident from Table 4.8, there is a statistically positive relationship between black Generation Y students' attitudes towards green advertising and their environmental concerns (r=0.453, p=0.000<0.05) and their environmental behaviour (r=0.524, p=0.000<0.05), as well as between their environmental concerns and their environmental behaviour (r=0.535, p=0.000<0.05). Therefore, the null hypothesis H_o4 is rejected and the alternative H_a4 is concluded. The more positive attitude that black Generation Y students have towards green advertising, the greater their environmental concerns and more pro-environmental their behaviour. Furthermore, the greater their environmental concerns, the more pro-environmental their behaviour.

As a positive significant relationship was determined between black Generation Y students' attitudes towards green advertising and their environmental concerns and environmental behaviour, regression analysis was conducted in order to measure whether attitudes towards green advertising influence environmental concerns and environmental behaviour.

4.5.3 Regression analysis

Regression analysis was undertaken to determine whether black Generation Y students' attitudes towards green advertising predicts their level of environmental concerns and environmental behaviour. This analysis addresses the third empirical objective in Chapter 1.

The hypothesis was formulated as follows:

H_o5: Black Generation Y students' attitudes towards green advertising do not influence their environmental concerns and behaviour.

Ha5: Black Generation Y students' attitudes towards green advertising do influence their environmental concerns and behaviour.

Table 4.9 presents the results of the regression analysis.

Table 4.9: Influence of attitudes towards green advertising and environmental concerns and environmental behaviour

	Standardised Beta	Adjusted R^2	t-value	Significance level
Independent variable:				
Attitudes towards green advertising				
Dependent variable:				
Environmental concerns	0.453	0.203	8.703	0.000*
Environmental behaviour	0.524	0.272	10.530	0.000*

*Significant at the 0.05 level (2-tailed)

As Table 4.9 shows, black Generation Y students' attitudes towards green advertising has a significantly positive influence on their environmental concerns (ß=0.453, p=0.000<0.05) and on their environmental behaviour (ß=0.524, p=0.000<0.05). Attitudes towards green advertising explained 20 percent of the variance in environmental concerns and 27 percent of the variance in environmental behaviour. Therefore, the null hypothesis, Ho5, is rejected and the alternative hypothesis Ha5, concluded; that is, black Generation Y students' attitudes towards green advertising predict their environmental concerns and environmental behaviour.

The following section considers differences in black Generation Y students' attitudes towards green advertising, their environmental concerns and their environmental behaviour, brought about by gender differences and geographical area differences.

4.5.4 Independent sample t-tests

For the purpose of this study, independent sample t-tests were used to determine if there were any differences between genders, as well as any difference between country- and city-based HEIs, concerning black Generation Y students' attitudes towards green advertising, environmental

concerns and environmental behaviour. These independent sample t-tests are aimed at addressing the fourth and fifth empirical objectives set out in Chapter 1.

4.5.4.1 Gender differences

The results recorded by Haytko and Matulich (2008:5) indicate that there may be meaningful differences in attitudes towards green advertising based on gender. Hence, an independent sample t-test was conducted to determine whether the South African black Generation Y student cohort showed any differences with regard to gender.

The hypothesis was formulated as follows:

H_o6: There is no difference between male and female black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour.

H_a6: There is a difference between male and female black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour.

Table 4.10 shows the mean, standard deviation, t-statistic and p-value for the genders pertaining to attitudes towards green advertising, environmental concerns and environmental behaviour.

Table 4.10: Gender difference

	Male Mean N=120	Male Std. Dev.	Female Mean N=174	Female Std. Dev.	t-value	p-value	Cohen's D
Attitudes towards green advertising	3.50	0.42	3.55	0.38	-1.146	0.253	*****
Environmental concerns	3.78	0.56	3.82	0.54	-.689	0.491	*****
Environmental behaviour	3.35	0.60	3.47	0.59	-1.673	0.095	*****

Table 4.10: Gender difference (continued ...)

*	Statistically significant at $p < 0.05$
**	Small effect, practically non-significant
***	Medium effect and moving toward practical significance
****	Large effect, practically significant
*****	Cohen's D-statistic not calculated as the variable was not statistically significant

As is evident from Table 4.10, there is no statistical significant difference between male and female black Generation Y students concerning their attitudes towards green advertising, environmental concerns or environmental behaviour. As such, at the 5 percent significance level, the null hypothesis, H_o6, cannot be rejected. In addition, as there was no statistically significant difference, there was no point in calculating Cohen's D-statistic.

4.5.4.2 City- versus country-based university differences

The data collected for this study came from four different HEIs, where two HEIs were based in the countryside and the remaining two in the city. An independent t-test was conducted to determine whether there is any significant difference in the black Generation Y cohort between the two geographical areas.

The hypotheses were formulated as follows:

H_o7: There is no difference between country- and city-based black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour.

H_a7: There is a difference between country- and city-based black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour.

Table 4.11 shows the means, standard deviations, t-statistics and p-values pertaining to differences based on geographical area.

Table 4.11: Geographical difference

	Country -based Mean N=139	Country -based Std. Dev.	City-based Mean N=156	City Based Std. Dev.	t-value	p-value	Cohen's D
Attitudes towards green advertising	3.58	0.33	3.48	0.44	2.185	0.030*	0.219**
Environmental concerns	3.83	0.52	3.78	0.57	0.759	0.448	*****
Environmental thoughts and behaviours	3.47	0.50	3.38	0.66	1.321	0.187	*****

*	Statistically significant at $p < 0.05$
**	Small effect, practically non-significant
***	Medium effect and moving toward practical significance
****	Large effect, practically significant
*****	Cohen's D-statistic not calculated as the variable was not statistically significant

There was no statistically significant difference between country-based and city-based black Generation Y students regarding environmental concerns or environmental behaviour; therefore, for these two aspects, the null hypothesis, H_o7, cannot be rejected at the 5 percent significance level. A statistically significant difference between black Generation Y students at country-based HEIs and those at city-based HEIs was recorded for attitudes towards green advertising. Therefore, for attitudes towards green advertising, the null

hypothesis, Ho7, is rejected and the alternative, H_a7, concluded. Black Generation Y students at country-based HEIs display a statistically significant more positive attitude towards green advertising.

The Cohen's D statistic was computed in order to determine whether the difference between black Generation Y students at country-based HEIs and those at city-based HEIs, concerning attitudes towards green advertising, was of practical significance. The Cohen's D value computed for the attitudes towards green advertising was 0.219, indicating a small practical effect.

4.6 SYNOPSIS

The purpose of this chapter is to report on and interpret the empirical findings of the study. In Section 4.2, the pilot study results were interpreted and fully discussed. Following the pilot study results is a discussion regarding the main studies preliminary data analysis process (Section 4.3), this section also includes a discussion of the coding and tabulation of the data.

Section 4.4 pertains to the descriptive analysis of the data sets, where the results of the main survey were tabulated. Validity and reliability tests were conducted on the data and were discussed further. Descriptive statistics, including the mean, standard deviation, frequency distribution and confirmatory factor analysis, were calculated to summarise the sample data distribution.

In Section 4.5, tests of significance were conducted in order to determine the significant factors of the study. A one-sample t-test determined if black Generation Y students had an overall positive attitude towards green advertising. Correlation analysis was undertaken to determine if a relationship existed between the black Generation Y cohort and green advertising, environmental attitudes and behaviours. Regression analysis was used to test if green advertising predicted environmental concerns and behaviour. Also conducted were independent t-tests, which aimed to conclude if there were any significant differences between genders as well as geographical areas. The results of these test provided evidence to support the hypotheses of the study.

The next chapter, Chapter 5, presents recommendations and concluding remarks of the study.

CHAPTER 5

RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

The environment is an imperative factor to every organism's existence. Consisting of the various eco-systems, the environment sustains life. Humanity has put the environment in danger from over-exploiting natural resources such as forests, water and oil reserves, to contributing to significant amounts of pollution causing global warming, and ultimately upsetting the balance of nature (Section 2.2.2). The effects of climate change are not only limited to eco-systems but also even extend to the financial world (Section 2.2.3.1). Humans have adopted a concerned attitude towards the environment and are attempting to fix the wrongs of the degradation of the environment. Many initiatives to protect the environment have been implemented with the aim of preserving the limited natural resources that are left, before it is too late. Consequently, marketers have been forced to adapt their conventional marketing practices to consider consumers' environmental concerns, and engage in what is now known as green marketing (Section 2.2.4).

Green advertising is a significant marketing communication tool for conveying an organisation's green image to its target market(s) and represents a driving force behind fostering environmental awareness and environmentally friendly behaviour. As with any type of advertising, an important determinant of the success of green advertising is consumers' attitudes towards green advertising and consequent environmental concerns and behaviour in relation to the environment (Section 1.1).

While organisations face many challenges in implementing green marketing practices (Section 2.3.3), there are several strategies marketers may implement to address such problems (Section 2.3.4). As green marketing evolves, it must address and appeal to the new Generation Y consumer, as they are the upcoming consumers that are shaping the ever-changing marketing environment, and the future of the green movement (Section 2.4).

Accordingly, this study sought to measure environmental concerns, attitudes towards green advertising and environmental behaviour within the South African context. Specifically, the study focused on black Generation Y students because first, the youth represent the future of the green movement, secondly, Africans account for the vast majority of South Africa's Generation Y population and thirdly, individuals with a tertiary qualification generally act as opinion leaders and trendsetters amongst their peers (Section 2.4).

As such, the primary objective formulated for this study was stated in Chapter 1 as:

Determine black Generation Y students' attitudes towards green advertising, environmental concerns and environmental behaviour within the South African context.

This primary objective was then disaggregated into three theoretical objectives (Section 1.3.2) and five empirical objectives (Section 1.3.3).

The purpose of this chapter is to provide an overview of the study (Section 5.2), present the main findings of the study (Section 5.3), and to make recommendations (Section 5.4) based on the findings of the study. The chapter includes an outline of the limitations of the study and suggestions for future research opportunities (Section 5.5) and indicates the contribution made by the study (Section 5.6). The chapter ends with concluding remarks (Section 5.7).

5.2 OVERVIEW OF THE STUDY

In order to provide the applicable recommendations based on this study, it is essential to include the insights gained over the previous four chapters.

In Chapter 1, a brief introduction to the study is provided in Section 1.1. This is followed by the problem statement (Section 1.2), which highlights why there was a need to undertake this study within the South African environment and, particularly, amongst the country's black Generation Y students. The primary objective of the study, together with the theoretical and empirical objectives, is

set out in Section 1.3. This section also includes the hypotheses formulated for the study. Section 1.4 focuses on providing a brief overview of the proposed research design and methodology of the study and the ethical considerations of the study are described in Section 1.5.

Chapter 2 comprises the literature review, as guided by the study's theoretical objectives. The chapter includes a discussion on the concept of environmentalism (Section 2.2), together with a review of the literature on environmental concerns and behaviour (Section 2.2.4). Green marketing is discussed in Section 2.3, which includes a definition of green marketing, its background and problems associated with it. In addition, the factors to be considered when developing a green marketing strategy as well as green advertising are discussed. The target population of the study, namely the Generation Y cohort, is discussed in Section 2.4.

According to the published literature, there has been a marked increase in environmental concerns worldwide. In an attempt to meet consumers' increased environmental concerns, marketers turned to green marketing (Section 2.3.2). Unfortunately, underhanded marketing tactics have hampered green marketing success over the last three decades (Section 2.3.3). In addition, the increased level of environmental concern does not always translate into consumers changing their purchasing behaviour in favour of green market offerings (Section 2.2.4). Section 2.3.4 indicates that, as with any other marketing strategy process, the successful implementation of a green marketing strategy requires consideration of the marketing tasks of segmentation, targeting, positioning and the management of the marketing mix.

The chapter focuses in on green advertising, which is credited as being an important driving force behind public awareness of green issues and the growing demand for green products and services (Section 2.3.5). Studies suggest that when designing green advertising messages, it is better to use the emotional rather than rational appeal, and to communicate to consumers the convenience of purchasing green offerings. Green advertising needs to focus on winning consumers' trust, a task that may prove difficult when

targeting the Generation Y market as this generation is quick to identify and criticise unauthentic and untruthful marketing claims (Sections 2.3.5 & 2.4).

Chapter 3 comprises a description of the research methodology followed in the study. The study used a descriptive research design (Section 3.2). The target population for the study was defined as black Generation Y full-time students between the ages of 18 and 24 years enrolled at South African registered public HEIs in 2012 (Section 3.3.1). The sampling frame for this study consisted of the 23 public registered HEIs in South Africa, which, using the judgement sampling method was narrowed down to four institutions in the Gauteng province. This sampling frame included two country-based and two city-based universities. A university of technology was amongst the country-based institutions while the remaining institutions were traditional universities (Section 3.3.2). Thereafter, a non-probability convenience sample of 400 black Generation Y students, as defined by the target population, was taken (Sections 3.3.3 & 3.3.4). A self-administered questionnaire that included existing scales was utilised to gather the required data (Section 3.4.2). Section 3.7 discusses the various techniques applied to the collected data for the statistical analysis reported on in Chapter 4.

Chapter 4 reports on the findings of the empirical portion of the study. The results presented in this chapter are in accordance to the empirical objectives formulated for the study.

5.3 MAIN FINDINGS OF THE STUDY

This section discusses the main findings of this study in accordance to the empirical objectives formulated in Chapter 1.

5.3.1 Black Generation Y students' environmental concerns, attitudes towards green advertising and environmental behaviour

The first empirical objective set out in Chapter 1 was to determine black Generation Y students' environmental concerns, attitudes towards green advertising and environmental behaviour. A one-tailed one sample t-test,

where the expected mean was set at mean>3, was employed to determine whether black Generation Y students have a positive attitude towards green advertising, are environmentally concerned and behave in a pro-environmental behaviour. As is evident from Table 4.7, black Generation Y students appear to have a statistically significant positive attitude towards green advertising, are environmentally concerned and report behaving in a pro-environmental behaviour.

The descriptive statistics in Table 4.4 indicate that black Generation Y students reported environmental concern was higher than their reported environmental behaviour (Section 4.4.2). This is consistent with a number of previous studies (Section 2.2.4). In particular, it appears that black Generation Y students are not prepared to make financial sacrifices or suffer any inconveniences in behaving in a pro-environmental way (Section 4.4.2). Laroche *et al*. (2001:513) highlight the importance of green advertising being used to educate consumers of the convenience of purchasing green products and services, and indicate that many still perceive being environmentally friendly as an inconvenience (Section 2.3.5).

5.3.2 Relationship between black Generation Y students' environmental concerns, attitudes towards green advertising and environmental behaviour

The second empirical objective formulated in Chapter 1 was to determine the relationship between black Generation Y students' attitudes towards green advertising, their environmental concerns and their environmental behaviour. Correlation analysis was undertaken to determine if a relationship existed between black Generation Y students' attitudes towards green advertising, their environment concerns and their environmental behaviour. As Table 4.8 shows, there is a statistically significant positive relationship between black Generation Y students' attitudes towards green advertising, their environmental concerns and their environmental behaviour, as well as between their environmental concerns and their environmental behaviour. This suggests that the more positive attitude that black Generation Y students

have towards green advertising, the greater their environmental concerns and more pro-environmental their behaviour (Section 4.5.2).

5.3.3 Influence of black Generation Y students' attitudes towards green advertising on their environmental concerns and environmental behaviour

The third empirical objective focused on determining whether black Generation Y students' attitudes towards green advertising influences their environmental concerns and environmental behaviour. Regression analysis was conducted in order to address this objective. As indicted in Table 4.9, black Generation Y students' attitudes towards green advertising had a statistically significantly positive influence on their environmental concerns and on their environmental behaviour. Attitudes towards green advertising accounted for 20 percent of the variance in environmental concerns and a 27 percent variance in environmental behaviour (Section 4.5.3). Previous research also found green advertising to play an informative role in the environmental awareness campaign (Section 2.3.5).

5.3.4 Black Generation Y student gender differences in attitudes towards green advertising, environment concerns and environmental behaviour

The fourth empirical objective outlined in Chapter 1 was to determine whether male and female black Generation Y students differ in their attitudes towards green advertising, their environmental concerns and their environmental behaviour. Independent sample t-tests were conducted to determine whether male and female black Generation Y students differ in their attitudes towards green advertising, their environmental concerns and their environmental behaviour. As shown in Table 4.10, this study found no significant statistical differences between male and female attitudes towards green advertising, environmental concern and environmental behaviour (Section 4.5.4.1). Previous research studies (Haytko & Matulich, 2008:5; Ottman, 2011:22; Straughan & Roberts 1999:563) suggest there may be a possibility of

attitudinal differences in gender regarding the environment. However, no gender differences were found in this study.

5.3.5 Differences in attitudes towards green advertising, environmental concerns and environmental behaviour between black Generation Y students registered at city-based HEIs and those registered at country-based HEIs

The fifth empirical objective aimed at determining whether black Generation Y students registered at city-based HEIs differ from those registered at country-based HEIs, in terms of their attitudes towards green advertising, their environment concerns and their environmental behaviour. An independent sample t-test was used to determine the outcome of this objective. As indicated in Table 4.11, there was no statistically significant difference between black Generation Y students registered at city-based HEIs and those registered at country-based HEIs concerning environmental concern or environmental behaviour. However, a statistically significant difference was found concerning green advertising, where students registered at country-based HEIs recorded a more positive attitude towards green advertising than their counter-parts based in the city (Section 4.5.4.2). This suggests that, in comparison to students based in the city, black Generation Y students based in the country are more positive towards green advertising.

5.4 RECOMMENDATIONS

The following recommendations are based on the literature review, along with the empirical findings concluded from the South African black Generation Y student sample concerning the attitudes towards green advertising, environmental concerns and environmental behaviour.

5.4.1 Appeal to the environmentally concerned consumer

Environmental concerns can be described as the heart of green marketing. Today's environmental consumer understands their own personal responsibility in the preservation of the environment, and it is these consumers who are willing to change their consumption patterns in terms of

behaviour, and in some cases pay higher prices for the benefit of the planet. Environmental concerns were found to have a significant positive influence on environmental behaviour among black Generation Y consumers. The top ranked concerns were that of the preservation of the environment as well as the opinion that government should be do more to support the conservation of the environment.

Marketers have to identify and appeal to these environmentally concerned consumers in order to penetrate the green market. For example, organisations could segment the green consumers according to the level of their eco-friendly attitudes, where organisations can then produce attractive product offerings designed for each of the specific segments. In terms of government, import taxes, tariffs and levies could be reduced for environmental products in order to stimulate the usage of environmental products in the country. This would also encourage the purchase of environmentally friendly products.

5.4.2 Use green advertising to create environmental concern

Green advertising is regarded as an important tool of an organisations overall green marketing strategy, in that it contributes to the acquisition of a sustainable competitive advantage as well as achieving superior performance. Green advertising should be utilised in a way that informs or raises environmental concerns of consumers. This study found that black Generation Y students' perceptions of green advertising directly affected their environmental concern levels, which in turn affects their environmental behaviour.

Marketers could implement advertisements to invoke emotional responses in consumers in order to encourage environmental behaviour. For marketers to gain credibility and the trust of consumers, organisations' environmental claims must be specific, outlined clearly and truthful. This is of utmost importance, since consumers have not forgotten the abundance of misleading claims from the past. If possible, marketers can market green products as substitutes for conventional products. Ottman *et al.* (2006:26-27) explain that consumers are not necessarily buying green products for environmental

reasons, which suggests that green products have become a norm and are performing on the same level as conventional products.

5.4.3 Utilise similar appeal to target black Generation Y males and females

Previous research indicates that gender plays an important role in targeting consumers in the green market. Generally, it has been noticed that females display more concern and are more likely to engage in green marketing behaviours. However, as indicated by the results of this study, gender does not attribute to any differences among the black Generation Y consumer. Therefore, marketers should appeal equally to both genders when marketing green offerings.

5.4.4 Appeal to both city- and country-based consumers

There is limited research to suggest that there are any differences in environmental behaviour regarding geographical aspects. This study concluded that, although city dwellers did display a slightly more positive outlook on environmental behaviour, the difference was not of statistical significance. Therefore, marketers should approach both geographical locations with the same marketing strategies or techniques to penetrate the market.

5.4.5 Adopt green practices into business strategies

It goes without question that an organisation should at least consider implementing some form of environmental system or practice to remain competitive within today's highly environmentally sensitive market. Whether it is in the form of an environmental management system, adopting ISO and SABS regulations or simply reducing materials in the production process, the organisations environmental claims must be of credible nature to ensure healthy product adoption.

As this study determined, the South African black Generation Y consumer is environmentally concerned, so incorporating green business strategies is a

good way to appeal to this consumer segment. In order to achieve this, organisations could possibly associate themselves with environmental groups/corporations and support green initiatives to strengthen their environmental image. Implementing the aforementioned environmental management systems and adopting the ISO and SABS standards, would be a more drastic measure.

5.4.6 Target the black Generation Y consumer

Black Generation Y consumers make up a considerable amount of South Africa's population and represent the future of the country. Qualifying from HEIs gives the student portion of this generation a greater likelihood of becoming the next wave of opinion leaders and trendsetters. Targeting the black Generation Y student cohort will help green marketers to influence the wider South African Generation Y population. This technologically astute generation can be reached via various methods such as social networks (Facebook, Twitter, Instagram), mobile advertising and other media platforms.

The results of this study show that the South African black Generation Y consumer has a strong positive attitude in terms of green advertising, environmental concerns and behaviour. Thus, this generational cohort could possibly be ready to purchase green products.

5.5 LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES

This study measured environmental concerns, attitudes towards green advertising and environmental behaviours of the South African black Generation Y consumer. This study, like most studies, has certain limitations, which present several future research opportunities.

The first limitation is that the study made use of a non-probability convenience sampling approach to survey the study's participants. As such, it is advised care should be taken in interpreting the study's results (Section 3.4.3). In addition, a single cross-sectional research design was utilised in the study (Section 3.2). As such, the study's findings lack the accuracy of a longitudinal study.

Respondents from four HEIs located in only two different regions of one province (Section 3.4.2) formed the sample for this study. Therefore, there is an opportunity to perform a wider scale study on students registered at HEIs campuses across the nine provinces of South Africa in order to gain a more accurate view of the black Generation Y students' environmental concerns, behaviours and their attitudes towards green advertising.

This study focused only on full-time students attending HEIs under the assumption that individuals who graduate from HEIs ultimately gain higher-than-average incomes and social status. This provides an opportunity for researchers to conduct studies on the non-student portion of the South African black Generation Y cohort, in order to determine whether there is a gap in the market to appeal to these consumers.

This study focused only on the attitudes black Generation Y consumers expressed towards green advertising, leaving an opportunity to conduct further studies on the actual effects green advertising has on actual purchase behaviours in the South African context. Similarly, there is a need to determine the influence of black Generation Y students' environmental concerns on their actual green purchase behaviour.

This study only focused on black Generation Y individuals aged between 18 and 24. It would be interesting to determine younger black Generation Y members' attitudes towards green issues, as well as the attitudes held by other generations alive today.

5.6 CONTRIBUTIONS OF THE STUDY

The controversial subject of green marketing has taken the fundamentals of conventional marketing to new heights. The importance of marketers incorporating green marketing strategies or techniques is very apparent in today's business world. Green is the new 'black', as consumers are concerned for the environment and are seeking ways to preserve the precious resources for future generations to come.

Furthermore, organisations must come to terms with the fact that consumers are turning green, in the sense that they want to see green initiatives being implemented into business practices. Therefore, not addressing consumers' environmental concerns could prove to be detrimental to an organisation's profit and sales margins. This study shows that organisations should use this knowledge of consumers' heightened environmental concerns to gain a competitive edge by using green strategies in its operations to target green consumers, while all at the same time reducing their carbon emissions for a better future.

Findings from this study have shown that black Generation Y students in South Africa possess positive attitudes towards the environment and wish to conserve the planet. Despite the fact that some organisations exploit the environmentally concerned, insights gained from this study will help both marketing academics and practitioners understand this cohort's attitudes towards green advertising, and levels of environmental concern and behaviour.

5.7 CONCLUDING REMARKS

There is no longer any doubt that the environment is facing potential disaster due the negligence of humanity. It is up to the human race to correct the harm done to the environment and green advertising can play a pivotal role towards the achievement of that goal by raising environmental awareness and educating consumers regarding the importance of behaving in a pro-environmental manner. The current study expands on previous research on green advertising, environmental concern and environmental behaviour to look at the black Generation Y cohort within the South African context. As Generation Y consumers represent the future, it is vital to understand how they perceive green marketing efforts in order to develop appropriate green marketing strategies.

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ANNEXURE A

COVER LETTER

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
VAAL TRIANGLE CAMPUS

Black Generation Y students' environmental concerns, attitudes towards green advertising and environmental behaviour

Dear Student

My name is Costa Synodinos. I am registered as a full-time student for an M.Com in Marketing Management at the North-West University (Vaal Triangle Campus) and I am currently working towards my dissertation under the supervision of Prof A.L. Bevan-Dye.

The purpose of this study is to investigate African Generation Y students' attitudes towards green marketing. Green marketing refers to marketing that encourages environmentally friendly behaviour. The study specifically focuses on African Generation Y members as they make up 84 percent of South Africa's total Generation Y market. Generation Y refers to individuals born between 1986 and 2005.

Please take a few minutes to assist me and complete the attached questionnaire. It should not take you longer than 20 minutes to complete. All responses are confidential and will merely be outlined in the form of statistical data in the analysis. All data will only be used for research purposes.

Thank you for your important contribution to this study.

Costa Synodinos
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ANNEXURE B

SURVEY QUESTIONNAIRE – SECTION A

Questionnaire

Section A: Demographical information

Please mark each question with a cross (**X**) in the appropriate box.

A1.	Name of institution	North-West University		Vaal University of Technology		University of Johannesburg		University of Witswatersrand	

A2.	Year	1st year		2nd year		3rd year		Post-graduate	

A3.	Gender	Male		Female	

A4.	Race	African		Asian		Coloured		White		Indian	

A5.	Age (Please indicate your current age at your last birthday)	

ANNEXURE C

SURVEY QUESTIONNAIRE – SECTION B

Section B: Questionnaire

This section deals with your attitudes towards green advertising (i.e. environmentally-friendly advertising), Please indicate the extent to which you agree or disagree with each of the following statements using a cross (**X)** where 1= Strongly disagree and 5= Strongly agree.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
B1	Green advertising is valuable to society.	1	2	3	4	5
B2	Green advertising promotes the desire for possessions.	1	2	3	4	5
B3	Green advertising leads people to be more socially responsible.	1	2	3	4	5
B4	Green advertising shows the consumers that the firm is addressing consumers' environmental concerns.	1	2	3	4	5
B5	Green advertising strengthens company image.	1	2	3	4	5
B6	I think green advertising is effective.	1	2	3	4	5
B7	Most green advertising insults people's intelligence.	1	2	3	4	5
B8	Green advertising claims are insincere (i.e. false/inaccurate/unreal)	1	2	3	4	5
B9	Green advertising is a good business practice.	1	2	3	4	5
B10	Green advertising is a weak form of advertising.	1	2	3	4	5
B11	Green advertising is unprofessional.	1	2	3	4	5
B12	A company that uses green advertising is trustworthy.	1	2	3	4	5
B13	Products and services that are advertised as green are safer to use.	1	2	3	4	5
B14	Green advertising is effective at addressing environmental problems.	1	2	3	4	5
B15	Green advertising is a good source of information about products/services.	1	2	3	4	5
B16	Green advertising is believable.	1	2	3	4	5
B17	Green advertising results in better products.	1	2	3	4	5
B18	Products/services that are advertised as green are less expensive to society in the long run.	1	2	3	4	5

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
B19	Green advertising helps to solve environmental problems.	1	2	3	4	5
B20	Green advertising is interesting to see.	1	2	3	4	5
B21	Green advertising presents a true picture of the product being advertised.	1	2	3	4	5
B22	Sponsors of green advertising have sincere intentions.	1	2	3	4	5
B23	I have more confidence in advertised green products than in unadvertised green ones.	1	2	3	4	5
B24	I believe the claims in green advertising are truthful.	1	2	3	4	5
B25	I tend to be more loyal to products from companies that practice green advertising	1	2	3	4	5
B26	I plan to switch to products and services that were advertised as being green.	1	2	3	4	5
B27	I would pay more for products or services that were advertised as being green.	1	2	3	4	5
B28	I prefer products with eco-labelled packages.	1	2	3	4	5
B29	Green advertising exploits environmental issues instead of addressing them.	1	2	3	4	5
B30	Green advertising is deceptive.	1	2	3	4	5
B31	Green advertising preys upon consumers' environmental concerns.	1	2	3	4	5
B32	Green advertising results in higher prices for products.	1	2	3	4	5
B33	Advertisements that focus on environmental concerns persuade people to buy products they do not really need.	1	2	3	4	5

ANNEXURE D

SURVEY QUESTIONNAIRE – SECTION C

Questionnaire

Section C: Questionnaire

This section pertains to your environmental concerns. Please indicate the extent to which you agree or disagree with each of the following statements using a cross (**X)** where 1= Strongly disagree and 5= Strongly agree.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
C1	I think we are not doing enough to save scarce natural resources from being used up.	1	2	3	4	5
C2	Natural resources must be preserved even if people must do without some products.	1	2	3	4	5
C3	I feel sorry that the government does not do more to help control pollution of the environment.	1	2	3	4	5
C4	Much more fuss is being made about the air and water pollution than is really justified.	1	2	3	4	5
C5	I feel angry and frustrated when I think about the harm being done to plant and animal life by pollution.	1	2	3	4	5
C6	I think government should devote more money towards supporting conservation and environmental programs.	1	2	3	4	5
C7	Consumers should be interested in the environmental consequences of the products they purchase.	1	2	3	4	5
C8	Consumers should pay higher prices for products, which pollute the environment.	1	2	3	4	5
C9	Non-recyclable containers should be taxed to reduce waste.	1	2	3	4	5
C10	The government should subsidise research on technology for recycling waste products.	1	2	3	4	5
C11	Manufacturers should be required to use recycled materials in their operations whenever possible.	1	2	3	4	5
C12	Commercial advertising should be required to mention the environmental disadvantages of products.	1	2	3	4	5
C13	Products that pollute the environment during manufacturing or consumption should be taxed.	1	2	3	4	5
C14	Schools should require all students to take a course dealing with the environment and consumption problems.	1	2	3	4	5

C15	I feel angry and frustrated when I think of the ways industries are polluting the environment.	1	2	3	4	5
C16	Environmental issues are overrated and do not concern me.	1	2	3	4	5

ANNEXURE E

SURVEY QUESTIONNAIRE – SECTION D

Questionnaire

Section D: Questionnaire

This section deals with your personal environmental thoughts and behaviour. Please indicate the extent to which you agree or disagree with each of the following statements using a cross (**X)** where 1= Strongly disagree and 5= Strongly agree.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
D1	I would be willing to pay an environmental tax to help decrease environmental problems	1	2	3	4	5
D2	I would be willing to stop buying from companies guilty of harming the environment, even though it might be inconvenient.	1	2	3	4	5
D3	I refuse to buy products from companies accused of being polluters	1	2	3	4	5
D4	I buy products in refillable containers.	1	2	3	4	5
D5	I strive to conserve water in my home.	1	2	3	4	5
D6	I read labels to see if contents are environmentally safe.	1	2	3	4	5
D7	I avoid buying products in aerosol containers.	1	2	3	4	5
D8	I've often bought products just because they were safer for the environment.	1	2	3	4	5
D9	I would pay extra on my electricity bill each month to ensure that all of the electricity I use comes from 'green' sources	1	2	3	4	5
D10	I consider myself to be an environmentalist.	1	2	3	4	5
D11	I do my best to keep up-to-date on environmental issues.	1	2	3	4	5
D12	I've changed my choice of many products for ecological reasons.	1	2	3	4	5
D13	I am a strong supporter of environmental regulation.	1	2	3	4	5
D14	I make a special effort to buy products with environmentally friendly packaging	1	2	3	4	5
D15	I try hard to use less heat in the winter and use less air conditioning in the summer to conserve energy.	1	2	3	4	5
D16	I do my best to not litter.	1	2	3	4	5
D17	I do my best to keep the environment around me clean.	1	2	3	4	5

Do you have any comments to add about ‘green’ advertising? Please specify:

Thank you for your cooperation