Identifying factors that influence green purchase behaviour

Philip Liebenberg
12760676

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Supervisor: Prof. Christo A. Bisschoff

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ABSTRACT

Through the worldwide concern on the problems facing the environment such as climate change and pollutions, consumers realise that their purchasing behaviour can further contribute to the depletion of natural resources. Thus, it became apparent that the global environment requires significant attention.

Green purchasing (GP) is an important part of sustainable consumption and businesses quickly started analysing the green purchasing behaviour of consumers in order to obtain a sustainable competitive advantage.

This study attempts to close the gap by exploring the possible factors that influence green purchasing behaviour. An existing conceptual model was used to analyse the factors influencing the green consumer's buying behaviour. The data were collected through means of a questionnaire and the influential factors were determined by making use of descriptive statistics as well as exploratory factor analysis. The sample adequacy was measured through Kaiser-Meyer-Olkin whilst sphericity was determined through Barlett's test. Cronbach Alpha was also used in the study to test the appropriateness of the collected data for factor analysis. Seven factors, namely: *Environmental knowledge, Environmental beliefs, Environmental concern, Environmental awareness, Environmental attitude, Environmental social consciousness* and *Purchase intention* were identified.

The study contributes by providing a valid questionnaire to measure green buying behaviour of South African consumers whilst also providing a measure of current green buying behaviour.

Key Terms: Purchasing behaviour, social consciousness, green buying behaviour, environment, eco-friendly products.

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ABBREVIATIONS

KMO	Kaiser-Meyer-Olkin
GP	Green Purchasing

1 CHAPTER 1

1.1 INTRODUCTION

"A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people." *Franklin D. Roosevelt.*

Since the initiation of Earth Day, promoting the conservation of the natural environment and biodiversity the general concern for environmental issues has increased progressively and continuously over the past three decades (Kaufmann et al., 2012:50).

Numerous environmental concerns, including global warming, metropolitan air pollution, water deficiency, environmental noise, and loss of biodiversity, jeopardize the sustainability of the environment. Several of these issues are inherent to human behaviour, and can consequently be controlled by modification of the applicable behaviour so as to diminish its environmental consequences (Steg & Vlek, 2009:309).

Due to the current concern for the repercussions of global climate change, consumers have become more sensitized to the well-being of future generations. The essential democratic process is leading to the evolvement of environmental consumer issues. Consumers are becoming more aware of the fact that their buying behaviour impacts the environment to a large degree. They are insisting on a safer and healthier environment by researching product information and manufacturing processes and weighing the costs up against the benefits of the products (Abeliotis et al., 2010:153; Vazifehdoust et al., 2013: 2489-2490).

Consumers' sustainable behaviour demonstrates a novel consumption lifestyle, founded on simplicity. Sustainable consumption can be summarised as the use of services and related products which respond to basic needs while minimising the environmental damage so as not to jeopardise the needs of future generations. In effect, consumers can behave in a sustainable manner through their purchasing behaviour, also demonstrated through conventional consumption of products or natural resources and refuse management. In reference to sustainable behaviour

these consumption practices predominantly involves conservation behaviour (Ibtissem, 2010:129).

Whenever an individual decides whether or not to purchase a product or service, an opportunity emerges to contribute to a greater of lesser sustainable habit of consumption. Every purchase has moral and practical ramifications such as resources, refuse and public impacts as a result of its usage. Consumers contemplating the implementation of a sustainable lifestyle undertake a growingly intricate decision-making process. These daily decisions on sensible environmental or moral solutions frequently lead to concessions among contradictory issues, resulting in a motivational and sensible intricacy of green consumption (Young et al., 2009:20).

Unsustainable behaviours endure and are being reinforced by the constant global economic development, in spite of the amount of work done by academia, governments and non-government establishments, and the corporations to comprehend and alter such behaviours. Resultantly, the issues associated with unsustainable consumption are increasing, and the strategy to accost them necessitates a more deliberate, all-encompassing and methodical approach (Prothero et al., 2011:31-38).

1.2 PROBLEM STATEMENT

According to Prothero et al. (2011:31-38) although previous research has endeavoured to establish and portray the “green consumer”, comprehension of the behaviour of individuals who attempt to decrease their general consumption has been researched to a smaller extent.

A study conducted by the United Nations Environment Programme in 2005 established that while 40% of consumers state that they are keen to purchase environmentally friendly products, a mere 4% in fact purchase green products. A constant well-known imbalance exists between expressed favourable orientation toward sustainability and individuals manifested (predominantly unsustainable) consumption behaviour.

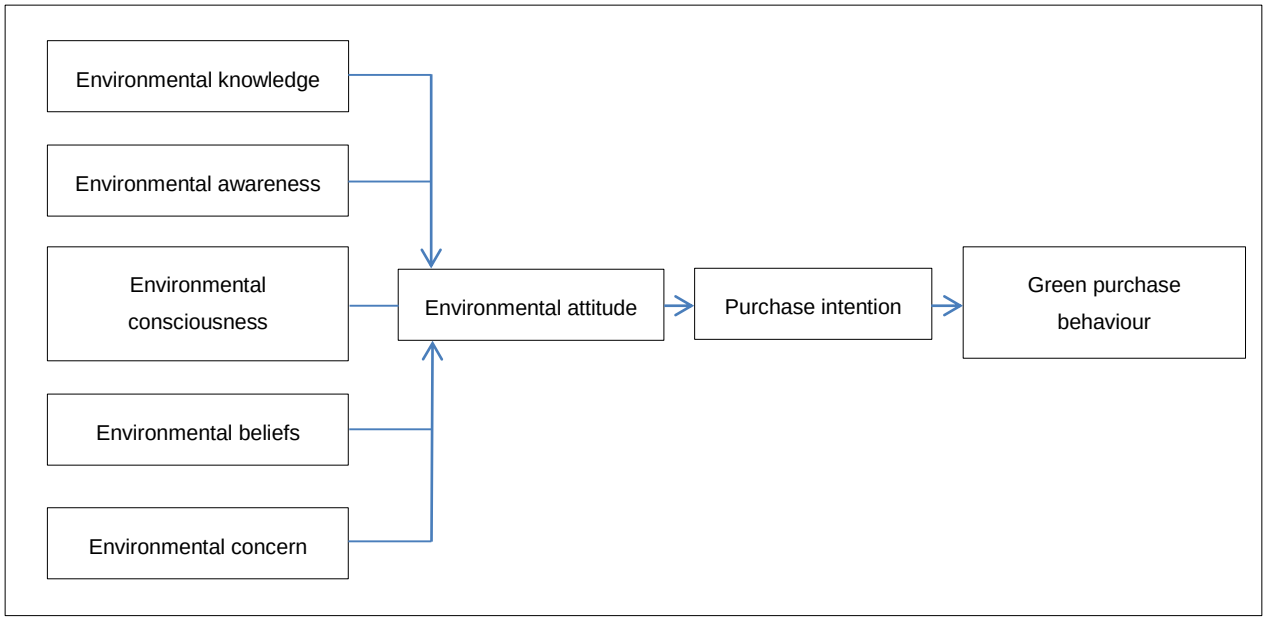
A large number of theoretical frameworks have been developed to describe the imbalance between environmental knowledge and consciousness, and conducting pro-environmental behaviour. Environmental concerns have been acknowledged and deliberated extensively over the past few decades. According to international research by Kaufmann et al. (2012:51), the majority of the respondents stated that they are concerned with environmental issues. Although countless people are conscious of and concerned about environmental problems, this does not always predispose them to display pro-environmental behaviour.

The purpose of this study is to evaluate the various factors that influence green purchasing behaviour in South Africa. Purchasing behaviour for the basis of this study will evaluate the internal factors through Sarumathi's (2014) conceptual framework.

1.3 CONCEPTUAL FRAMEWORK

Factors that have been determined to have an impact on individuals' environmental behaviour have been categorised as external, internal and situational. Examples of external factors are education, media, family and culture, whereas internal factors consists of knowledge, attitudes, beliefs, awareness, consciousness, concern. Situational factors encompass economic rewards and legislation. These elements will be employed to assess and to explore consumers' environmental behaviour, such as Green behaviour, environmental knowledge, social awareness, environmental consciousness, environmental concern and attitude, environmental beliefs and environmental information (Sarumathi, 2014:780).

Figure 1.1: Conceptual framework: Factors influencing green purchase behaviour of consumers



Source: Sarumathi (2014:780)

1.4 RESEARCH OBJECTIVES

The primary objective of this research was to investigate the influence that identified factors have on green buying behaviour.

1.4.1 Theoretical objectives

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

- Conduct a literature review on green consumer, green product and green consumer behaviour.
- Identifying influential factors on green consumer purchase behaviour.

1.4.2 Empirical objectives

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

- Determine the relationship between environmental awareness and green purchasing behaviour.
- Establish the relationship between environmental knowledge and green purchase behaviour.
- Calculate the relationship between environmental concern/attitude and green purchase behaviour.
- Determine the relationship between consumer beliefs and green purchase behaviour.

1.5 HYPOTHESES

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

- H0: There is no relationship between green purchasing behaviour and the identified factors.
- H1: *Environmental awareness* is positively associated with consumers' green purchasing behaviour.
- H2: *Environmental knowledge* has a significant positive effect on consumers' green purchasing behaviour.
- H3: *Environmental attitude* favourably influence consumers' green purchasing behaviour.
- H4: *Consumers' environmental* beliefs have a correlation with consumers' green purchasing behaviour.
- H5: *Environmental concerns* is positively associated with consumers' green purchasing behaviour.
- H6: *Environmental social consciousness* has a significant positive effect on consumers' green purchasing behaviour.
- H7: Consumers' *purchasing intension* favourably influence consumers' green purchasing behaviour.

1.6 RESEARCH METHODOLOGY

1.6.1 Literature review

In order to support the empirical study, a review of South-African as well as international literature was conducted using secondary data sources that included the following: Academic journals, Internet, textbooks and online academic databases.

1.6.2 Empirical study

The empirical portion of this study comprises the following methodology dimensions: Research design, Respondents and Statistical analysis.

1.6.3 Research design

The methodology to collect data are based on the quantitative approach. A structured questionnaire was designed to collect data. This questionnaire was used to collect information by administering it to participants.

1.6.4 Respondents

In order to collect the data a convenience sample was taken from the green consumer buying population in Gauteng.

1.6.5 Data analysis

Measuring tools that were used include statistical analysis and descriptive statistics as advised by the Statistical Consultation Services at the North-West University. The study employed exploratory factor analysis to investigate the validity of the questionnaire where after the data were evaluated for reliability. The data was also used to perform a measurement of the green buying behaviour of consumers.

1.7 CHAPTER CLASSIFICATION

The chapters in this mini-dissertation are presented as follows:

Chapter 1: Provided the reader with the relevant background and perspective of the study. It includes an introduction, background of the study, problem statement and objectives of the study research methodology.

Chapter 2: Comprises a literature review of the factors that could possible influence green consumer purchasing behaviour.

Chapter 3: The methodology utilised in this study is described and results from this study are also highlighted.

Chapter 4: The conclusions drawn from the results obtained in chapter 3 are discussed and relevant recommendations are made during this chapter.

2 CHAPTER 2

2.1 INTRODUCTION

Awareness and concern are rising among current consumers about their social responsibilities and their immediate influence on the environment by means of their purchasing behaviour. Individuals are enlightening themselves on the perceived advantages of making environmentally responsible choices. It is imperative for individuals to practice green behaviour in order to preserve the environment and its sparce resources (Scott & Vigar-Ellis 2014:642; Smith, 2013:95).

Although consumers may be interested in greening, they may not be able to recognize it. This is an obstacle for greening since they are less likely to purchase green products if they do not know what greening entails. Numerous factors, such as greening attitudes, knowledge, concerns and the company's environmental reputation and credibility of their advertising, affect whether an environmentally conscious perspective translates into actual green purchasing behaviour (Li-Ming & Wai, 2013:63; Smith, 2013:95).

South Africa is a developing country and as such, has established significantly less groundwork for sustainable behaviour and South African consumers have had comparatively minimal exposure to sustainability execution in contrast to developed countries. Scott and Vigar-Ellis determined that education and more extensive enlightenment is required in consideration of awareness and knowledge of environmental concerns, for example, climate change being average at the most among South African consumers. Even though developing nations are most likely subjected to the sustainability crusade to a minimal extent, most of the world's population, living predominantly in underdeveloped and developing countries, equally need to be dedicated to sustainability. The initial phase of obtaining the general dedication from communities in developing countries is research directed at instituting a degree of comprehension and awareness of, and behaviour towards environmentally friendly convictions (Scott & Vigar-Ellis, 2014:642).

2.2 GREEN CONSUMERS

A green consumer can be described as a consumer who is particularly concerned with the environment in their purchasing behaviour, marketplace related activities, consumption practices and contemplate the consequences of their conduct on the natural environment around them. Green consumers are distinguished as purchasing green products when the opportunity presents itself. They avoid harmful products that may be detrimental to any living entity, which during manufacturing or usage has an environmentally deleterious outcome, which uses substantial amounts of non-renewable energy or encompasses unscrupulous testing on animal or human subjects. Generally, every consumer who demonstrates environmentally friendly behaviour is hailed a green consumer (Smith, 2013:98; Sarumathi, 2014:779; Shabani et al., 2013:1880).

It has been demonstrated that green consumers are inclined to pay more for environmentally friendly products. This is advantageous to businesses and governments considering making eco-friendly policy changes (Agyeman, 2014:189).

2.3 GREEN PRODUCTS

Generally, green or eco-friendly products are products that can be recycled, do not contaminate the environment and do not squander resources. Green products conserve energy or resources and diminish or eliminate the utilization of noxious contents, pollution and refuse, thus helping to preserve and better the natural environment (Shabani et al., 2013:1882).

According to Kataria et al. (2013:5) a green product can be defined as a product that meets customers' requirements, is socially acceptable, is manufactured in a sustainable way and has a minimal impact on the environment In this regard, companies should not only pay attention to the product per se, but also to the manufacturing process. The following aspects should be considered when designing green products:

- Raw materials;
- Production processes;

- Packaging, distribution; and
- Discarding of used products.

Regarding the production process of the products, importance should be placed on:

- Sustainability;
- Efficiency;
- Safety of raw materials; and
- Energy consumption.

Green products can be differentiated in various ways. Green products have to constitute a noteworthy attainment in diminishing the influence on the environment; additionally, they may have to involve approaches of recycling, recycled materials, reduced packaging or utilization of less harmful substances (D'Souza et al., 2007:70).

Companies should pay special attention to the recyclability of used products in any of the following ways – by designing products that are reusable, by the provision of technological development, by alternative usage or should enable disassembling of products to assure they are recycled (Kataria et al., 2013:5; Smith, 2013:96).

Further steps can be taken in greening products by greening the product's packaging. In order for packaging to meet green standards, the following should apply: decrease packaging materials; reusable canisters and packaging; recyclable packaging; renew technology and other renewable materials used for other products; eliminate overwraps or portions of packaging that are nonessential and substitute by replacing one material or structure for another (Smith, 2013:96).

Most companies usually realign existing products without altering product structure or refine existing products to diminish its environmentally detrimental effects or reshape corporate culture to ensure environmental issues are consolidated into operational facets or, alternatively, create new businesses that focus solely on the production of green products and green consumers (Kataria et al., 2013:5).

2.4 GREEN CONSUMER BEHAVIOUR

Consumer behaviour examines how individuals and companies determine how to spend their available resources (time, money and effort) on purchaser associated products. Purchases are affected by consumer behaviour to a large degree by being the predominant triggers in consumers' buying approach. Consumers utilize a decision-making approach when purchasing products or services in order to satisfying needs. A consumer's perception of a product is also impacted by behaviour (Agyeman, 2014:189; Smith, 2013:96).

Peattie (1995) (cited by Kataria et al., 2013:5) states that, if individuals usually follow a purchasing pattern they ought to raise particular queries during each of the various stages – identification of need, seek alternate options, explore available options, purchase selection and post-purchase appraisal, in order to transform their perceptions towards pro-environmental marketing into action. For example: During the identification phase, individuals ought to cross-examine themselves whether the product is truly a necessity; other options that fulfil the environmental concern need to be explored during the information phase; throughout the consideration stage they ought to evaluate socio-environmental sacrifices; they ought to question themselves at the transaction phase whether they can postpone the purchase; and in the course of the post-purchase phase individuals should investigate the possibility of utilizing the old one (Kataria et al., 2013:5-6).

General purchase behaviour, as oppose to eco-friendly behaviours, is propelled by an evaluation of advantages and disadvantages that are of direct relevance exclusively to the individual consumer conducting the behaviour. It is improbable that environmentally conscious behaviour will result in instant personal rewards or satisfaction, but instead a future-oriented result that is frequently beneficial to society in general. An individual's aspiration to resolve environmental problems, to become role-models and a conviction that they can assist in the preservation of the environment, culminates in environmental behaviour involvement. However, the consumers' demonstration of favourable attitudes towards environmental problems do not necessarily manifest in eco-friendly purchasing behaviour (Kaufmann et al., 2012:51; Gan et al., 2008:94).

Scholarly researchers have had difficulties in establishing a correlation between consumers' concern for the environment and their buying behaviour. There are various definitions for the concept or principle of consumer purchasing behaviour. It can be defined as the actions and effects that transpire prior to, during and after the purchase itself. From this, it can be concluded that specific forces affect consumers' buying behaviour and it is definite that these consumers perform several actions when purchasing a product. Another definition is that consumer behaviour comprises behavioural patterns of selection units which make decisions for the procurement of market offerings that gratify needs. This definition entails those actions that consumers embark on and the various roles they play (Smith, 2013:97-98; Kataria et al., 2013:6).

Green behaviour constitutes the set of intentional activities in reaction to social and individual needs that emerge from environmental conservation. Numerous terms have been used interchangeably in studies on environmentally responsible behaviour, for example, pro-environmental behaviour, environmentally-friendly behaviour, green behaviour, sustainable behaviour, and ecological behaviour. However, whether these terms are merely synonyms, or if variations between them should be taken into account in theory development and empirical applications, remains inconclusive (Lorena, 2012:471).

Green consumer behaviour can be categorised into two common classifications; firstly, the reduction of energy resource consumption, namely curtailing behaviours and secondly, eco-friendly purchasing decisions, namely green purchase behaviour. Limiting the use of private vehicles, decreasing the temperature of heating appliances or diminishing water and electricity usage are curtailing behaviours. Examples of green purchase behaviours are purchasing green products, insulation of the home with new equipment, purchasing energy-saver light bulbs or environmentally friendly and energy-efficient vehicles. Curtailing behaviours do not usually demand the expenditure of additional money, but rather necessitate the modification of personal habits. On the other hand, the majority of green purchase behaviours will lead to additional expenses in the short term (Shabani et al., 2013:1880).

From a consumer's perspective, the most prevalent difficulty is the incapacity to modify purchasing behaviour in spite of a concern toward the environmental notion and an orientation to purchase eco-friendly products. Notwithstanding, it has been observed that present-day consumers are progressively adapting green products for their own self-regard at the minimum, as opposed to environmental concern. A notable propensity exists among consumers to attempt to repurpose or recycle household products, whereas this initiative diminishes in their external surroundings, for example, in the instance of their workplace. Companies have had difficulty to pinpoint, segregate and target consumers who have a tendency towards green environmentally aligned products through advertising (Kataria et al., 2013:6).

2.5 ENVIRONMENTAL KNOWLEDGE / INFORMATION

The majority of individuals do not possess sufficient knowledge regarding environmental issues to act responsibly towards the environment. The definition of environmental knowledge is a general understanding of truths, notions, and correlations in the matter of the natural environment and its crucial ecosystems. Thus, environmental knowledge entails what individuals comprehends with regard to the environment, fundamental relationships culminating in environmental aspects or repercussions, acknowledgement of complete systems, and mutual responsibilities essential for continuous development. Gaining an elevated level of understanding yields significantly greater pro-environmental behaviour. Environmental understanding has a remarkable influence on the individuals' intention to purchase eco-friendly commodities (Kaufmann et al., 2012:51).

Individuals' inclination to buy eco-friendly commodities comprise their perspective and understanding towards the concept of environmentally friendly products, which they accrue during their life (Vazifehdoust et al., 2013:2492).

Consumers with more training and greater levels of education, and therefore having more information available to them, are presumed to conduct themselves in a way that is conducive to the environment more often. Previous research, conducted by Granzin and Olsen, indicates that a positive correlation exists between the variables of education and walking due to environmental concern as opposed to using a vehicle. Although, this variable's illustrative function is not validated by other research. Whilst

the findings of research evaluating the correlation between education and environmental aspects are more constant than those of other demographic variables, no conclusive and unequivocal correlation has thus far been determined between the two variables. A positive correlation between the variable education and environmental approach has been demonstrated by the majority of research. On the other hand, Samdahl and Robertson have observed that a negative relationship exists between the level of education and environmental approach, and Kinnear did not observe a meaningful association between these two variables (Do Paço et al., 2008:19).

The diverse practical findings could probably insinuate a more intricate correlation between environmental understanding and conduct. The buying experience and understanding accrued from every buying activity, in addition to the self-condemnation from not buying the most environmentally favourable product, reinforces the consumers establish green ethics and understanding, which impacts the subsequent purchase. Understanding may serve as an effectuating variable for environmental approaches and conduct. Supplementary, an increase in understanding of ecological concerns may culminate in more favourable environmental approaches (Vazifehdoust et al., 2013:2492).

2.6 ENVIRONMENTAL AWARENESS

The definition of environmental awareness is to recognise the effect of human conduct on the environment. Ecological consciousness comprises a cognitive, comprehension based element and a non-cognitive, insight based element (Lorena et al., 2012:472). Gatersleben et al. (cited by Kaufmann et al., 2012:53) determined that environmental consciousness has a favourable impact on the purchase of eco-friendly food products and recycling in Holland.

An example of environmentally conscious conduct is environmental consumerism (green purchasing) and utilizing products that are benevolent towards the environment. Household products manufactured with salvaged plastics or paper, reclaimable or reusable containers, energy-saver light bulbs, and cleansers comprising constituents that are biodegradable, non-polluting, and do not contain any artificial pigments or fragrances are only a few examples of the copious green

commodities currently available that can advance the long-term objective of conserving our natural habitat (Sarumathi, 2014:778; Smith, 2013:98).

Green consumption can be defined as the approach of abstaining from products which are probable to jeopardize the well-being of consumers or others, utilize a disproportionately substantial amount of resources or considerably harm the environment during the manufacturing process, precipitate environmental damage during usage or disposal, generate undesired refuse through excessive packaging, utilize components acquired from endangered species or environments, involve inhumanity to or needles exploitation of animals or negatively impact other countries, especially, developing countries (Kataria et al., 2013:5).

Green consumers are embracing a more sustainable and eco-friendly livelihood and their lifestyles have changed due to an increased consciousness regarding environmental issues by individuals and companies. The necessity for environmentally friendly products has increased due to the constant escalation in environmental awareness of consumers. Consumers are pre-disposed to buy eco-friendly products if they have a positive perspective towards a more environmentally friendly lifestyle. The ongoing consciousness of eco-friendly concerns may additionally alter consumers' perspectives and purchase intentions (Agyeman, 2014:189-190; Kanonuhwa & Chimucheka, 2014:2785).

2.7 SOCIAL CONSCIOUSNESS

Making more environmentally friendly decisions demonstrates a social consciousness with regards to preserving and promoting the earth's natural resources, conserving them for the wellbeing of society. According to Panni's findings, individuals are more involved in pro-social and pro-environmental behaviour, if they are better enlightened of societal and environmental concerns (Agyeman, 2014:189-190; Kaufmann et al., 2012:53).

A positive inter-relationship exists between environmental understanding and pro-environmental perceptions. Thus, socially responsible individuals possess a better awareness in relation to environmental concerns and are more probable to exhibit favourable perceptions towards the environment. Consumers who consider the

environmental ramifications (involving people and nature) of their individual expenditure would have a greater concern for the environment and be more inclined to use green products, as opposed to individuals who do not worry about the consequences (Gan et al., 2008:94; Kim, 2011:67).

Eco-friendly responsible purchasing can be deemed as a particular category of social conscious behaviour due to the fact that the behaviour exhibits an intentional concern for the repercussions of the utilization of certain products or services on the environment (Kim, 2011:67).

According to Schwartz' hypothesis of social consciousness, when an individual is knowledgeable of the detrimental effects to others and accepts responsibility for transforming the displeasing environmental state, their behaviour is more likely to be environmentally-friendly. Conversely, Borden and Francis' theory (in Kaufmann et al., 2012:52-53), denoting to the harmful consequences of individualism in this setting, states that: 1) Individuals with a fierce self-centred and ambitious inclination are less probable to act environmentally friendly; 2) Individuals who have fulfilled their immediate needs are more inclined to exhibit environmentally-friendly behaviour, as they possess more resources (time, money and energy) to be concerned with less personal, social and ecological concerns which are of greater significance.

One of the primary causes that hinder consumers from engaging in environmentally friendly efforts is their discerning level of self-involvement towards the conservation of the environment. Numerous individuals have great environmental concern, however they are under the impression that the responsibility of environmental conservation lies with the government and/or large organisations. It is anticipated that this perception could influence consumers' inclination to pay higher prices for green products (Sarumathi, 2014:778).

2.8 ENVIRONMENTAL BELIEFS

A continuous disagreement exists on the elements of the ecological belief system impelling sustainable behaviour. Ecological beliefs can be seen as two-dimensional: *Ecocentrism* vs. *Anthropocentrism*, however, research exists which empirically corroborates a trinary composition of beliefs, namely: egoistic, altruistic and

biospheric. On the other hand, Palavecinos et al. (in Aguilar-Luzón et al., 2014:619) designated four aspects to ecological beliefs, namely: egoistic, socio-altruistic, biopheric and egobiocentric.

Thompson and Barton, as cited by Ibtissem (2010:131), differentiate between anthropocentric and ecocentric principles. Anthropocentric principles originate from an anthropocentric perception founded on the notion of the supremacy and sovereignty of human on nature. Man can extract and utilize available resources. Furthermore, the human system functions autonomous of nature. The anthropocentric belief may even precipitate superfluous utilization of nature and profess that the pollution and depletion of natural resources are the logical ramifications of economic prosperity.

In contrast, ecocentric principles discern humans as a fraction of a unity, specifically nature, subordinate to every natural laws equivalent to each and every entity on earth. This perspective assumes the regard for nature and implies that humans have to pursue to exist in concord with the environment. Ecocentric individuals assign value to nature and accordingly beliefs that nature warrants to be conserved in the interest of its inherent values. In this context, individuals who believe in ecocentric principles have a concern for the environment, distinct from the interests resulting from its conservation to the determinant standard of living or of the economy (Ibtissem, 2010:131).

Research indicates that intense ecocentric beliefs insinuate a greater involvement in ecological behaviour, and likewise, that intense anthropocentric beliefs would translate into less involvement (Aguilar-Luzón et al., 2014:619-621).

Axelrod et al. have suggested a comparable differentiation into three belief systems: an egoistic, a social-altruistic, and a biospheric value orientation. Individuals with an egoistic belief system primarily take the costs and advantages of environmentally sustainable behaviour into account for themselves. They will favour the environment if the perceived advantages outweigh the cost, and vice versa. Individuals with a social-altruistic belief system found their resolution to exhibit eco-friendly behaviour or not on perceived costs and advantages to other individuals. Lastly, individuals with a

biospheric belief system primarily consider the perceived costs and advantages for the ecosystem and biosphere when making decisions to behave in an environmentally-friendly way (De Groot & Steg, 2007:333-334).

Albeit all three belief systems present an evident foundation for beliefs associated with environmentally sustainable behaviour, generally environmentally-friendly beliefs, intention and behaviour tend to have a positive correlation to social-altruistic and/or biospheric beliefs and a negative correlation to egoistic beliefs (De Groot & Steg, 2007:333-334).

Furthermore, Nordlund and Garvill (in Ibtissem, 2010:131) deem principles have an immediate influence on personal standards and an incidental effect through beliefs. They have established that individuals are more dedicated to embrace green behaviour, based on the significance of self-transcending and ecocentric principles. It can be deduced that both ecocentric and transcendent principles incidentally influence personal standards favourably.

2.9 ENVIRONMENTAL CONCERNS

Environmental issues have a strong influence on customers' intent to buy eco-friendly products. However, environmental issues are not the exclusive consideration in the purchase decision to buy green products; other determinants also initiate green purchases (Agyeman 2014:190).

Studies suggest that environmental concern corresponds to, but is not necessarily associated with purchasing behaviour. Balderjahn (in Gan et al., 2008:93) established that the consumer's perception about environmental issues has a beneficial influence on their approach towards an environmentally friendly lifestyle. This implies that individuals who are truly concerned about environmental issues are more inclined to take steps to pre-empt additional environmental decline. Furthermore, Balderjahn determined that individuals with a favourable attitude towards the environment are more inclined to purchase green products. The same constructive correlation was also found by Crosby et al. (in Gan et al., 2008:94).

Environmental issues correlates to an individual's principal attitude, morals and opinions, environmental legislation and understanding. Environmental concern indicates an individual's habitual approach toward the environment and an individual's extent of concern about environmental problems has been established to be a valuable forecast of eco-friendly behaviour, encompassing from recycling behaviour to green purchasing behaviour. An example of this is that customers who have greater environmental concerns, are more inclined to buy products that impact less on the environment than customers who are less concerned with the environmental problems at hand (Smith, 2013:98).

On the contrary, Lee established that peer pressure, environmental concern, self-esteem in environmental conservation and discerning efficacy of environmental behaviour are the most indicative of adolescents purchasing behaviour in Hong Kong (Lorena et al., 2012:472).

An individual's concern for the environment is crucial to environmental research. Hinged on Dunlap and Van Liere trailblazing research, environmental concern is described as a universal approach with an incidental influence on actions through behavioural purpose (Kaufmann et al., 2012:53).

Seguin et al. (in Kaufmann et al., 2012:54) have claimed that a concern for the environment can have a substantial influence on the level to which individuals are encouraged to transform behavioural habits in an effort to diminish the problem. Numerous researchers have indicated that environmental concern is a significant indicator of the propensity to purchase environmentally friendly food. Huang suggests that the increased environmental concern within society is correlated with the increased use of organic food. Foreseeably, an individual's enthusiasm in and their eagerness to buy eco-friendly products correlate directly to their concern for the environment. According to Grunert and Juhl, a green consumer is an individual who is aware that the manufacturing, distribution, utilization, and disposal of products result in external sacrifices in terms of the environment, and who appraise such external sacrifices critically, in an effort to diminish them through their behaviour (Vazifehdoust et al., 2013:2492).

Tregear et al. (in Vazifehdoust et al., 2013:2492-2493) emphasizes by stating that consumers who purchase eco-friendly products are more inclined to participate in eco-friendly activities that is recycling as a means of exhibiting their concern for the environment. It is prevalent through corroboration from various sectors that environmental concerns affect individuals' purchasing behaviour.

2.10 ENVIRONMENTAL ATTITUDE

Attitude can be defined as a selection of unwavering favourable and adverse beliefs about a specific individual, object, action or matter, which may transfer into the aim of performing the action. In other words, it concerns the understanding one has about an individual, object or matter. Attitude is shaped by a person's opinions and morals and is expressed as the positive and negative assessment an individual performs of certain behaviour. On the contrary, intent is defined as the resolution to behave in a specific manner (Kataria et al., 2013:6; Kaufmann et al., 2012:53; Vazifehdoust et al., 2013:2491).

Numerous studies indicate that the correlation between attitude and behaviour has been reinforced when attitudes are directed at conducting certain eco-friendly behaviour, for example recycling, as opposed to conventional environmental problems. Individuals' green purchasing behaviour decisions are frequently hinged on their environmental attitudes. Empirical research has predominantly insinuated a significant favourable correlation among environmental intent and behaviour. Attitudes have been identified as noteworthy indicators of behaviour, behavioural intent, and revelatory elements of variables in individual behaviour within the social psychology literature on behavioural studies. Intent is influenced by attitude and the more positive the attitude, the greater the intent to execute the action will be. Furthermore, attitudes are indicators of purchasing intent and inevitably buying behaviour, thus, the more favourable the attitude, the more inclined the consumer will be to buy eco-friendly products as opposed the standard products (Kataria et al., 2013:6; Kaufmann et al., 2012:53; Vazifehdoust et al., 2013:2491-2492).

Research performed in the USA is illustrative of this; proposing that customers holding an opinion of more usefulness about their purchases are more inclined to purchase recycled products. Particularly, a positive correlation exists between customers'

procurement of recycled products and favourable attitudes toward recycled products, the belief of benefaction to the environment, perceived value (impression that the recycled product's quality is superior to the standard product's quality) and anticipated variation in price. Attitudes are imperative, as customers necessitate a comprehension of their attitudes and impulses to be able to conquer the discerning obstacles they encounter (Lorena, 2012:472; Vazifehdoust et al., 2013:2491).

Attitude is composed of three elements: 1) Cognitive: exhibition of beliefs and understanding with relation to attitude intent. Particularly, the cognitive element is restricted to how significant the environmental concerns are to the consumers; 2) Affective: display of beliefs or sentiment toward attitude intent. Illustrative of this is an individual's belief that eco-friendly products are essential for long-term welfare of the society, but may also believe that it is bothersome to purchase green products; 3) Conative/behavioural: encompassing demonstration of behavioural motive toward a specific object or act. Specifically, how prepared an individual is to transform their attitude towards green products (Kataria et al., 2013:6).

Attitudes prevail due to the fact that they fulfil a purpose and are propelled by individuals' intention. Individuals may possess similar attitudes towards an object, however there can be diverse rationale responsible for it. Attitude and attitude changes can impact an individual's belief and have an immediate or incidental influence upon their behaviour in various situations (Li-Ming & Wai, 2013:65).

Although consumers' attitudes toward the environment can have a significant influence on their purchasing decisions, it is not always the foundation of their decisions. Numerous researches have been conducted on the correlation between attitudes toward the environment and the purchasing of products or the planned use. It is perceived that the greater the involvement with the environment, the greater the inclination to purchase eco-friendly products (Do Paço et al., 2008:21).

2.11 PURCHASING INTENTION

Consumer intention to purchase is a significant abstraction within books and writings published on marketing. Former research has revealed that customers with intention to purchase products display greater concrete purchasing prevalence as opposed to

customers who exhibit that they have no intention of making a purchase. Agyeman (2014:190) points out that Blackwell et al. corroborate this by stating that buying intention is representative of what customers expect to purchase. Additionally, behaviour towards a specific item is estimated by an intention to execute that behaviour. Resultantly, the intent to purchase has a favourable influence on the likelihood that a consumer will resolve to purchase eco-friendly products.

Consumer behaviour encompasses analysis of individuals, groups or businesses and the diverse strategies they employ to decide on and discard of products, services or experiences to satisfy their requirements in addition to the effect of these practices on civilization. Swaying behaviour is challenging in the absence of first influencing perceptions and morals. Contradictory, McGuire (in Kanonuhwa & Chimucheka, 2014:2787) noted that declarations and attitudes may not culminate in concrete behaviour on all occasions. Eco-friendly products are perceived as an agreeable choice that intensifies intention with relation to concrete behaviour.

2.12 LEGISLATION

Environmental legislation has progressed at disparate rates among industrialised and developing counties. List and Co (in Smith, 2013:99) have proposed that a country's likelihood of attracting new organisations is generally reduced equivocally to the rise in consolidated abatement costs; in addition, this reveals that international investors may be more susceptible to pollution acts as opposed to local investors. Furthermore, the escalation of environmental tax enhances prosperity by means of decreasing the expenditures to foreign capital. This is indicative that the escalation in environmental tax does not guarantee an advancement of prosperity in general, except if the reduction in environmental damage and the diminishing in the lease payments to foreign capital are substantially ample.

Governments ought to provide more training to organisations in relation to the utilization of eco-friendly strategies and practices; organisations ought to be motivated to adopt an environmental management system to monitor their footprint on the environment; organisations' yearly consolidated reporting ought to incorporate environmental performance; and organisations ought to implement green certification such as ISO 14001 (Smith, 2013:99).

Smith (2013:99) states that, based on Frey's statement, commercialisable emission licensing set the amount of pollution. Consequently the environment may be encumbered to such a degree as the emitters licensing permit them to. Emission legislation makes transgression expensive and is thus inclined to diminish pollution. However, the precise structure which yields this result predisposes the destruction of inherent motivation to conserve the environment. Additionally, he contends that the government decrease the fixed amount of pollution taxes.

Voet et al. (cited by Smith, 2013:99) evaluate pollution export repositioning issues away from the region related to development within the region. The tax induces organisations to decrease their emission level by compelling organisations to internalise the environmental damage created by their manufacturing processes. The adoption of incentive-aligned pollutant tax strategies does not necessitate an escalation in the tax burden, but can also be achieved by shifting the tax burden. In such an instance, there is no instantaneous trade-off between combating unemployment and imposing harsher environmental strategies.

Global politics are also adapting their agenda's to include sustainable consumption. An example of this is Article 14 of the Johannesburg Plan of Implementation stating that: "Fundamental changes in the way societies produce and consume are indispensable for achieving global sustainable development." (Abeliotis et al., 2010:153). The changing global climate is identified globally as the major environmental issue of our time and is linked directly to consumption.

South Africa has advanced substantially in terms of environmental governance by adopting policies and regulations with which organisations have to comply (Kanonuhwa & Chimucheka, 2014:2785).

2.13 SUMMARY

Chapter two provided a literature overview of green purchasing behaviour and the influence it has on customers. The model by Sarumathi (2014):780 is employed as literature base to identify the green purchasing behaviour influences to be measured. The chapter resulted in the drafting of a questionnaire where the literature guided the formulation of the measuring criteria of the seven environmental influences. These influences are validated and measured in the next chapter.

CHAPTER 3: RESEARCH METHODOLOGY AND RESULTS

3.1 INTRODUCTION

This chapter provides the exploratory research methodology used to determine which factors influence green purchasing behaviour as well as the results obtained from the analysis. The chapter starts off by explaining the research methodology employed, where after it discusses the results obtained from the empirical research. The results are discussed in three sections, namely the demographic profile, the validation of the questionnaire, and the measurement of green buying behaviour.

3.2 RESEARCH METHODOLOGY

3.2.1 Questionnaire design

The literature review served as basis to identify and formulate, firstly, environmental influences, and secondly, questions pertaining to each of the influences with the purpose to measure these influences. Resultantly a questionnaire was developed to measure the respondents' perceptions on seven influences by answering 40 formulated questions pertaining to environmental issues. The questionnaire employed a 5-point Likert scale. The Likert scale was selected as tool to capture respondents' perceptions because Syque (2010:1) indicates that Likert scales, as a research instrument, offers a number of benefits. Firstly, the questions used are usually easy to understand and lead to consistent answers (Moolla, 2010:198). Secondly, questions or statements act together to provide a useful coherent picture. Finally, the responses can easily be captured, analysed and evaluated (Stone, 2009:2 as cited by Moolla, 2010).

3.2.2 Data Collection

Data were collected using the abovementioned questionnaire (the questionnaire appears as Appendix A). The population consisted of buyers of green products within the Gauteng province. A convenience sample was drawn by approaching buyers of green consumer products in shopping areas in Pretoria East, Gauteng. A minimum of 100 completed and usable questionnaires were set as target. In practice a total of 107 questionnaires were successfully distributed. All questionnaires were distributed by

hand and obtained immediately after completion. The collected data represented the response of green purchase behaviour to the questions, and was utilized to determine which factors influence their purchase behaviour towards green products.

3.2.3 Statistical techniques employed

The *Statistical Package for the Social Sciences* (SPSS) version 22 was used to analyse the data. The statistical procedures of the programme were employed to analyse the data by means of:

- The *Kaiser criterion* (also referred to as the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy) was used to ensure that sufficient data were collected and therefore, that the sample was adequate. The KMO analysis returns values between 0 and 1, indicating the relative sample adequacy (Darlington, 2005: 58). The closer the value is to 1, the better the sample adequacy is. More specifically, values between 0.5 and 0.7 are acceptable, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are excellent (Field, 2009:735).
- In addition to the sample adequacy, it is also preferential to evaluate the inter-correlations between the variables. *Bartlett's test of sphericity* was used to do so. A value equal or below 0.005 signifies that the correlations are low. This means that the data are suitable to be subjected to exploratory factor analysis (Field, 2009: 729).
- *Exploratory factor analysis* was employed to determine if the questions pertaining to a specific topic actually do pertain to that topic. Minimum factor loadings of 0.50 was set as cut-off point and the oblique rotation method Oblimin was used to rotate factors where applicable (Field, 2009:668). The cumulative variance was calculated for each factor while only factors with a minimum Eigenvalue of one were extracted. The variance explained each factor analysis indicate the importance of the specific factor extracted.
- Reliability was measured by calculating the coefficient Cronbach alpha. The reliability is regarded to be satisfactory if an Alpha coefficient is equal or to higher than 0.70 (Field, 2009:668). However, Cortina (1993) (in Field, 2009:669) indicates that a lower Cronbach alpha coefficient of 0.58 is also

acceptable when interval or ordinal scales (such as the Likert scale employed in this questionnaire) were used. Hence, the ideal reliability coefficient is set at 0.70, but coefficients of 0.58 are also accepted as a lower limit of reliability.

- *Inferential statistics,* in the form of *Frequency distributions*, were employed to analyse the demographic variables. In addition the *mean values* and *standard deviations* of the individual questions were calculated to measure the perceptions of the respondents regarding each of the environmental influences.

3.3 RESULTS AND DISCUSSIONS

The results consist of three sections, namely the demographic profile of the respondents, the validation of the questionnaire by means of factor analysis, and the measurement of the environmental influences.

3.3.1 Demographic profile

The demographic profile of the respondents includes age, home language, highest qualification and employee status.

The age profile of the sample indicated that the majority of the respondents which constitutes 49% were between the ages of 31-45 with a further 29.8% between the ages of 18-30. Thus, 78.8% of the respondents were between the ages of 18 and 45.

The home language profile indicated that the majority of the respondents were Afrikaans speaking individuals at 43.3% followed by English-speaking individuals at 25%. The rest of the respondents' home languages were as follows, Tswana (11.5%), Zulu (2.9%), Venda (2.9%), Swati (1%) and Sotho (10.9%).

The education profile of the sample indicated that the majority of the consumers have completed high school (44.2%) and a further 54.9% have higher education. Higher education constitutes either a diploma (20.2%), a degree (26%) or a master's degree (8.9%). Only 1% of the consumers only had a primary school education.

In regards to the employment status profile, most consumers had a full-time work (79.8%) whilst the second biggest group at 12.5% have a part-time work. Some 1.9%

of the consumers were unemployed with the pensioners making up 2.9% of the sample group.

Table 3.1: Demographic Profile

Demographic Profile		
Age	18-30	29.8%
	31-45	49.0%
	46-60	17.3%
	61-85	1.9%
Home Language	English	25%
	Zulu	2.9%
	Afrikaans	43.3%
	Tswana	11.5%
	Xhosa	1.0%
	Swati	2.9%
	Venda	10.6%
	Sotho	0%
Highest Qualification	Primary School	1.0%
	High School	44.2%
	Diploma	20.2%
	Degree	26.0%
	Master's Degree	8.7%
	Doctorate	0%
Employment Status*	Unemployed	1.9%
	Part-time	12.5%
	Full-time	79.8%
	Pensioner	2.9%

* Not indicated by all respondents

3.3.2 Validation of the questionnaire

The questions in the questionnaire have been subjected to factor analysis to determine if the questions relating to an influence actually do measure that influence. In practice this means that if the five questions formulated from the literature review all loads onto one factor, that the factor does measure the specific influence. If they do not all load onto the influence, it means that the influence consists of two or more sub-influences.

In addition it is also important to measure the sample adequacy (KMO) and inter-correlations (Bartlett's shericity) to determine suitability to subject the specific data to factor analysis. Table 3.2 shows the KMO measure of sampling adequacy, Bartlett's test of shericity, the Cronbach alpha reliability coefficients and the variance explained by the factors. The factor loadings and factor matrices are shown in Table 3.3. (The questions and their respective question codes appears in Appendix A).

Tables 3.2 follows on the next page

Table 3.2: KMO, Bartlett's test, reliability and variance explained

Influence	Sub-Influence	KMO	Bartlett	Cronbach Alpha	Variance Explained
Environmental knowledge	***	.679	0.000	.693	44.92%
Environmental concern	General environmental concerns Mining water pollution	.683	0.000	.716 **	47.17% 19.92%
Environmental beliefs	Natural resource reserves Nature's coping ability Health already affected	.479	0.000	.615 .619 **	28.98% 25.45% 21.01%
Environmental awareness	Personal interest Secondary information	.535	0.000	.498 .521	36.14% 29.92%
Environmental social consciousness	***	.704	0.000	.598	38.72%
Environmental attitude	Tangible commitment Personal involvement	.642	0.000	.601 **	36.12% 22.96%
Purchasing intention	***	.703	0.000	.658	43.42%

*** Not calculated due to limited questions;*

**** No sub-factors identified*

Table 3.3: Factor analysis

Environmental knowledge	*Factor loadings*
Ek_5	.707
Ek_3	.703
Ek_4	.658
Ek_1	.649
Ek_2	.629

Environmental concern	*Factor loadings*	
	.F1	**.F2**
EC_3	.764	
EC_4	.726	
EC_5	.702	
EC_2	.0656	
EC_1		0.648

Environmental beliefs	*Factor loadings*		
	.F1	**F2**	**F3**
EB_4	.854		
EB_5	.843		
EB_3		.797	
EB_2		.787	
EB_1			.944

Purchasing intention	*Factor loadings*
PI_2	.797
PI_3	.719
PI_1	.684
PI_5	.636

Environmental attitude	*Factor loadings*	
	.F1	**.F2**
EAT_5	.778	
EAT_2	.669	
EAT_3	.635	
EAT_4	.566	
EAT_1		.890

Environmental awareness	*Factor loadings*	
	F1	**F2**
EA_2	.565	
EA_1	.837	
EA_5		.875
EA_4		**.**636
EA_3		.597

Environmental social consciousness	*Factor loadings*
ESC_5	.719
ESC_3	.669
ESC_4	.648
ESC_2	.533
ESC_1	.515

From tables 3.2 and 3.3 it is evident that:

- ***Environmental knowledge***

  The five statements all load onto one factor. This confirms that customers' environmental knowledge is indeed a construct of green purchase behaviour. The five statements explain 44.92% of the variance.

- ***Environmental concern***

  Four of the five statements load onto factor 1. EC_1 returns a factor loading of .648. The four statements explain 47.17% of the variance and consist of the general concern towards the environment. The statement loading strongly onto the second factor explains the concern towards water pollution in the mining industry and can be seen as an additional concern to the individuals. The second factor explains 19.2% of the variance.

- ***Environmental beliefs***

  The five statements in environmental beliefs loaded onto three sub-factors. EB_4 and EB_5 loaded onto sub-factor 1, EB_3 and EB_2 loaded onto sub-factor 2 while EB_1 loaded onto sub-factor 3. Factor 1 entails the natural resources reserves which explain 28.98% of the variance. This shows that there is a strong feeling among consumers that the natural resources must be conserved for in the interest of the future generation. Factor 2 explains 25.45% of the variance and portrays a general belief that the natural environment is strong enough to cope with the impacts of modern industrial industries (hence recovery ability). Factor 3 entails the belief that the consumers' health have already been affected by pollution and explains 21.01% of the variance.

- ***Environmental awareness***

  The factor also consists of two sub-factors. Two of the five statements load onto sub-factor 1 (EA_2 and EA_1), whilst EA_5, EA_4 and EA_3 all loaded onto sub-factor 2. Sub-factor 1 explains 36.14% of the variance while sub-factor 2

explains 29.92% of the variance. The statements in sub-factor 1 entail the personal interest of the consumers to get a better understanding of the environment whilst the statements in factor 2 can be seen as secondary information obtained from resources.

- ***Environmental social consciousness***

  The five statements all load onto one factor. This confirms that customers' environmental social consciousness is indeed a construct of green purchase behaviour. The five statements explain 38.72% of the variance.

- ***Environmental attitude***

  Once again two sub-factors were identified within the environmental attitude of the respondents. Four of the five statements load onto sub-factor 1. The four statements explain 36.12% of the variance and consist of the tangible commitment of the consumers to the environment. The second sub-factor explains the personal involvement of the consumers, and explains 22.96% of the variance.

- ***Purchasing intention***

  The five statements all load onto one factor. This confirms that customers' purchasing intention is a construct of green purchase behaviour. The five statements explain 43.42% of the variance.

Table 3.4: Measurement of influences – Mean values of all validated survey questions

Measurement Category	Statement	N	Mean	Standard Deviation
Environmental Knowledge	Most air pollution in our cities come from automobiles	104	3.826	1.095
	Aerosol has a negative effect on the ozone layer	104	3,880	1.064
	Water shortages in SA are tied to climate change	104	3.773	1.133
	Even small rises in sea level leads to more frequent flooding in coastal areas	104	4.186	0.865
	Sulphuric acid released from coal mining has a negative impact on SA's soil quality	104	4.146	0.982
Grand Mean Environmental Knowledge = 3.96				
Environmental Concern	I am concerned about water pollution generated by the mining industry	104	4.186	0.792
	I am concerned about the water shortages	104	4.441	0.725
	I am worried about the unlimited development of cities	104	3.705	1.067
	I am concerned about the extent of industrial air pollution	104	4.274	0.705
	I am concerned about solid waste management	104	4.137	0.808
Grand Mean Environmental Concern = 4.14				

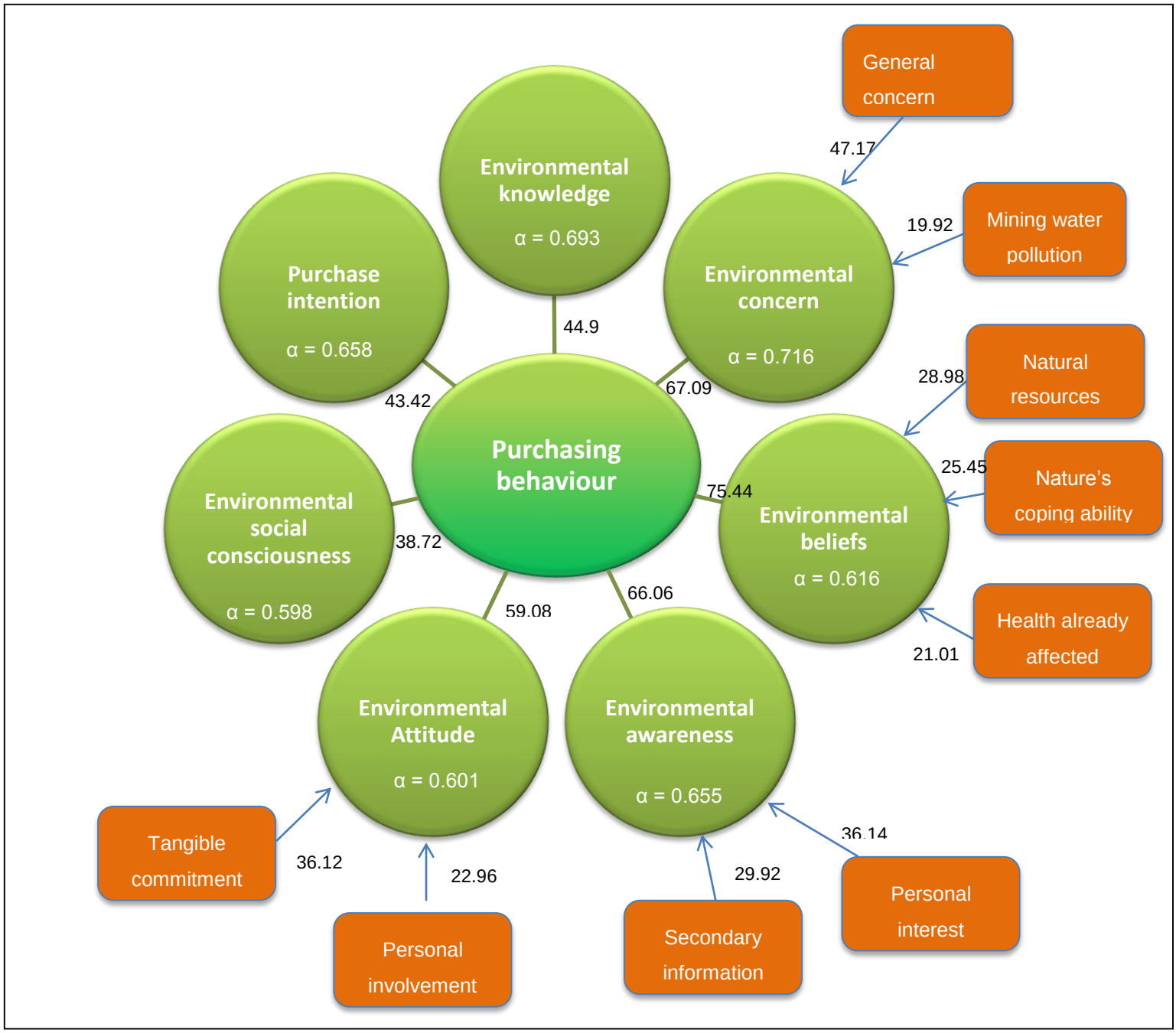
Environmental Beliefs	I believe my health has already been affected by pollution	104	3.570	1.037
	I believe that depletion of natural resources are the logical ramification of economic prosperity	104	3.580	0.923
	I believe that nature must be conserved in the interest of the future generation	104	4.560	0.729
	I believe nature is strong enough to cope with the impacts of modern industrial countries	104	2.760	1.035
	I believe SA's natural environment is in a good condition	104	2.580	1.138
Grand Mean Environmental Beliefs = 3.41				
Environmental awareness	I enjoy reading books or magazines with an environmental message	104	3.171	1.152
	I like watching television programs with an environmental message	104	3.767	0.901
	I am well informed about environmental issues in South Africa	104	3.494	0.918
	Pollution is an important cause of health problems today	104	4.080	0.853
	I am aware of the impact of energy use on the environment	104	3.878	0.824
Grand Mean Environmental awareness = 3.77				

Environmental social consciousness	I can do a lot to protect the environment in my community	104	3.673	0.873
	I am willing to pay more taxes to protect the environment	104	2.415	1.185
	I think the government should reallocate existing money to protect the environment	104	4.386	0.720
	I am very concerned about environmental issues in my community	104	3.980	0.647
	I will make personal sacrifices if I could help protect the environment	104	3.693	0.857
Grand Mean Environmental social consciousness = 3.62				
Environmental attitude	I can positively influence how environmental problems are resolved	104	3.603	0.825
	Maintaining economic growth is more important than protecting the natural environment	104	2.564	1.186
	Everyone should adopt environmentally friendly behaviours	104	1.663	0.604
	Possible dangers posed by environmental problems bothers me	104	2.069	0.724
	Environmental protection issues are none of my business	104	2.079	1.016
Grand Mean Environmental attitude = 2.39				

Purchasing Intention	I am committed to buy green products	104	3.780	0.773
	My willingness to buy green products is high	104	3.750	0.857
	I will pay more for a product that has more environmental benefits	104	3.430	1.046
	I will buy a product even if it affects the environment negatively	104	3.430	1.075
	I intend to switch to other brands for ecological reasons	104	3.470	0.809
Grand Mean Purchasing Intention = 3.57				

The model to measure environmental influences in buying behaviour is summarised in Figure 3.1 below. Reliability coefficients are also indicated pertaining to each influence.

Figure 3.1: A model to measure environmental influences



3.4 SUMMARY

Chapter three presented the empirical research. The chapter explained the research design and indicated how the data were collected. In addition the chapter also presented the results of the study, namely the demographic profile, the factor analyses as well as the actual measurement of the green buying behaviour of the respondents by means of inferential statistics.

The next chapter is the final chapter of the study. This chapter presents the conclusion and recommendations pertaining to the study, whilst also indicating possible areas for future research.

CHAPTER 4: CONCLUSION AND RECOMMENDATION

4.1 INTRODUCTION

Chapter four is the final chapter of the study. The results in chapter three are discussed with the objective to provide guidelines for retailers and manufacturers in regards to green products so that they could obtain a better understanding of consumers' green purchasing behaviour. The core of the chapter, therefore, consists of the conclusions and recommendations. In addition the acceptance or rejection of the hypotheses are dealt with, while the chapter also indicates where possible areas of future research are. The chapter concludes with a final summary of the study.

4.2 CONCLUSION AND RECOMMENDATIONS

The key objective of this study was to determine the possible factors that might have an influence on green purchasing behaviour. The seven factors were selected through a conceptual model and in relation to the validity of the questionnaires and the data reliability the following can be concluded:

CONCLUSION 1:

It was appropriate to use the statistical measures of Barlett's Test of Sphericity and the Kaiser-Meyer-Olkin of Sampling Adequacy (KMO) to determine if exploratory factor analysis could be utilised to analyse the data. The satisfactory variance explained in the results of all seven factors also indicated that the factor analysis was a suitable tool selected for use in this study. Three of the seven factors had two sub-factors whilst another factor consisted of three sub-factors. Through the use of Cronbach alpha it can be concluded that the data in this study is reliable and fit to use in measuring model design.

RECOMMENDATION 1

The questionnaire used in this study can be recommended for future research due to its validity and the fact that it collected reliable data. The data of the questionnaire successfully explained the variances to analyse green purchasing behaviour.

CONCLUSION 2

One of the questions was omitted from the results as it was not confirmed to be a statistically valid question for the determination of factors influencing green purchasing behaviour. The question was directed at purchasing intention and stated: “I will buy a product even if it affects the environment negatively”.

RECOMMENDATION 2

It is recommended that the specific question should not be included in the event that this questionnaire is used in future studies. All questionnaire questions should be revaluated for validity prior to being applied to future research.

CONCLUSION 3

Sub-factors were identified within four of the influential factors of green purchasing behaviour. Thus, it can be deduced that some of the factors are dualistic in nature and that they constitute two sub-factors while one of the factors indicated three sub-factors. Resultantly, each sub-factor should be evaluated individually to establish its significance and impact on green purchasing behaviour.

Although the most significant factor is environmental concern, it can be concluded that all the factors influencing green purchasing behaviour are significant and have a grand means in surplus of 3.55%.

RECOMMENDATION 3

It is recommended that businesses direct their marketing efforts primarily toward the environmental concern, as that would produce the best outcome. Focusing primary on the factors of higher significance will render higher success rates.

CONCLUSION 4

The sample size in this study consisted of 104 respondents and even though it is a small fraction of the total consumers in South Africa, it can be concluded that it still provides valuable insight into green purchasing behaviour.

RECOMMENDATION 4

It is recommended for future research that the results of these factors are verified on a larger scale or amended if necessary.

4.3 ACCEPTANCE OR REJECTION OF HYPOTHESES

The acceptance or rejection of the hypotheses is based on the empirical results. From Tables 3.3, 3.4 and Figure 3.1 where the contributions of the seven influences are shown by the variance explained and the reliability indicated by Cronbach Alpha's coefficient, it is clear that the hypotheses:

- H0: There is no relationship between green purchasing behaviour and the identified factors, is ***REJECTED;***
- H1: *Environmental awareness* is positively associated with consumers' green purchasing behaviour, is ***ACCEPTED***;
- H2: *Environmental knowledge* has a significant positive effect on consumers' green purchasing behaviour is ***ACCEPTED***;
- H3: *Environmental attitude* favourably influence consumers' green purchasing behaviour is ***ACCEPTED***;
- H4: *Consumers' environmental* beliefs have a correlation with consumers' green purchasing behaviour is ***ACCEPTED***;
- H5: *Environmental concerns* is positively associated with consumers' green purchasing behaviour is ***ACCEPTED***;
- H6: *Environmental social consciousness* has a significant positive effect on consumers' green purchasing behaviour is ***ACCEPTED***; and that
- H7: Consumers' *purchasing intension* favourably influence consumers' green purchasing behaviour is ***ACCEPTED***.

4.4 AREAS OF FUTURE RESEARCH

This study gives a synopsis of a conceptual model to measure green purchasing behaviour. The behaviour of the green consumer in South Africa was portrayed through the results of the seven factors to a certain extent.

The development of this study can further be extended in analysing the various cultures and sub-cultures in South Africa and their perspective on green consumption.

4.5 SUMMARY

The objective of this study was to analyse the green purchase behaviour of consumers. A factor analysis was performed to identify which influential factors are regarded as important towards green purchase behaviour. The results were obtained through a questionnaire and tested against literature and the following summary can be made:

- The South African consumer has a good understanding of what pollution entails.

- The overall environmental concern of the consumer seems to differentiate.

- The consumers differentiate between the general concerns and concerns in regards to mining pollution.

- The belief of the South African consumer is that their health have already been affected due to pollution and that they have a strong belief that nature must be conserved in the interest of the future generations.

- Although the consumers are well aware of environmental issues they are not willing to sacrifice their income through higher taxes to protect the environment.

The study was also structured into four chapters to facilitate a logical layout. In Chapter 1 a background to the environmental buying behaviour and the design of

the study introduced the relevant background and perspective of the study. The second chapter provided the literature review which served as basis for the buying influences and their respective measuring criteria. The chapter culminated in a questionnaire to measure environmental buying behaviour. Chapter 3 presents the research methodology and the results obtained from the analysis. The questionnaire was validated and only one question was eliminated in the process. In Chapter 4 the conclusions and recommendations are presented while the study is finalised with areas for future research.

The study is of practical managerial value to marketers and managers in South Africa where environmental issues play a role in the buying behaviour of consumers and customers. The study is also of significant academic value since a questionnaire was developed, tested and empirically validated for use by other researchers to examine environmental buying behaviour. A model to measure environmental buying behaviour is also constructed as final contribution of the study.

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APPENDIX A: QUESTIONNAIRE

Demographics: **Please mark the applicable block with an X**

Age:	18-30	31-45	46-60	61-85			
Home Language:	English	Zulu	Afrikaans	Tswana	Xhosa	Swati	Venda	Sotho
Highest Qualification:	Primary school	High school	Diploma	Degree	Master Degree	Doctorate	
Employment Status:	Unemployed	Part Time	Full Time	Pensioner			

		Please indicate how much you agree or disagree with the following statements:	**1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree 6 = Don't know at all**					
		Environmental Knowledge						
1	EK_1	Most air pollution in our cities come from automobiles	1	2	3	4	5	6
2	EK_2	Aerosol has a negative effect on the ozone layer	1	2	3	4	5	6
3	EK_3	Water shortages in SA is tied to climate change	1	2	3	4	5	6
4	EK_4	Even small rises in sea level leads to more frequent flooding in coastal areas	1	2	3	4	5	6
5	EK_5	Sulphuric acid released from coal mining has a negative impact on SA's soil quality	1	2	3	4	5	6

		Please indicate how much you agree or disagree with the following statements:	**1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree**				
		Environmental Concern					
1	EC_3	I am concerned about water pollution generated by the mining industry	1	2	3	4	5
2	EC_4	I am concerned about the water shortages	1	2	3	4	5
3	EC_5	I am worried about the unlimited development of cities	1	2	3	4	5
4	EC_2	I am concerned about the extent of industrial air pollution	1	2	3	4	5
5	EC_1	I am concerned about solid waste management	1	2	3	4	5

Please indicate how much you agree or disagree with the following statements:			1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree				
Environmental Beliefs							
1	EB_1	I believe my health has already been affected by pollution	1	2	3	4	5
2	EB_2	I believe that depletion of natural resources are the logical ramification of economic prosperity	1	2	3	4	5
3	EB_3	I believe that nature must be conserved in the interest of the future generation	1	2	3	4	5
4	EB_4	I believe nature is strong enough to cope with the impacts of modern industrial countries	1	2	3	4	5
5	EB_5	I believe SA's natural environment is in a good condition	1	2	3	4	5

Please indicate how much you agree or disagree with the following statements:			1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree				
Environmental Awareness							
1	EA_1	I enjoy reading books or magazines with an environmental message	1	2	3	4	5
2	EA_2	I like watching television programs with an environmental message	1	2	3	4	5
3	EA_3	I am well informed about environmental issues in South Africa	1	2	3	4	5
4	EA_4	Pollution is an important cause of health problems today	1	2	3	4	5
5	EA_5	I am aware of the impact of energy use on the environment	1	2	3	4	5

Please indicate how much you agree or disagree with the following statements:			1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree				
Environmental Social Consciousness							
1	ESC_1	I can do a lot to protect the environment in my community	1	2	3	4	5
2	ESC_2	I am willing to pay more taxes to protect the environment	1	2	3	4	5
3	ESC_3	I think the government should reallocate existing money to protect the environment	1	2	3	4	5
4	ESC_4	I am very concerned about environmental issues in my community	1	2	3	4	5
5	ESC_5	I will make personal sacrifices if I could help protect the environment	1	2	3	4	5

Please indicate how much you agree or disagree with the following statements:			1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree				
Environmental Attitude							
1	EAT_1	I can positively influence how environmental problems are resolved	1	2	3	4	5
2	EAT_2	Maintaining economic growth is more important than protecting the natural environment	1	2	3	4	5
3	EAT_3	Everyone should adopt environmentally friendly behaviours	1	2	3	4	5
4	EAT_4	Possible dangers posed by environmental problems bothers me	1	2	3	4	5
5	EAT_5	Environmental protection issues are none of my business	1	2	3	4	5

Please indicate how much you agree or disagree with the following statements:			1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree				
Purchasing Intention							
1	PI_1	I am committed to buy green products	1	2	3	4	5
2	PI_2	My willingness to buy green products is high	1	2	3	4	5
3	PI_3	I will pay more for a product that has more environmental benefits	1	2	3	4	5
4	PI_4	I will buy a product even if it affects the environment negatively	1	2	3	4	5
5	PI_5	I intend to switch to other brands for ecological reasons	1	2	3	4	5

Thank you for your time!!

APPENDIX B: LETTER FROM LANGUAGE EDITOR

DLTS
DYNAMIC LANGUAGE & TRANSLATION SPECIALISTS
CK 95.17794\73
Esselen str 71
Potchefstroom
2531
Tel: (018) 293-3046

12 November 2015

TO WHOM IT MAY CONCERN

Re: Letter of confirmation of language editing

The dissertation **Factors influencing green purchase behavior** by **Philip Liebenberg (12760676)** was language, technically and typographically edited. The citations, sources and referencing technique applied was also checked to comply with university guidelines. Final corrections as suggested remain the responsibility of the student.

Antoinette Bisschoff
Officially approved language editor of the NWU since 1998
Member of SA Translators Institute (no. 100181)