ENVIRONMENTAL CONCERN AND THE THEORY OF PLANNED BEHAVIOUR:

IDENTIFYING THE GREEN CONSUMER

by

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ABSTRACT

Since the 1980's environmentalism has developed into a major worldwide movement with concern for the environment having grown exponentially over the last two decades. With this change in thinking there have been corresponding shifts in consumer attitudes with many stating they are willing to pay more for eco-labelled products and services. With the increase in consumer demands on protection of the environment and businesses becoming aware of their responsibility towards the objective of sustainability, retailers and manufacturers have moved beyond simply addressing environmental regulatory issues and are introducing alternative products that could be classified as eco-friendly. However, at present, businesses find it difficult to predict consumers' reaction towards these products with a degree of accuracy that is necessary to enable the development of new targeting and segmenting strategies. This presumably has contributed towards several failures in green products development (D'Souza *et al*, 2007).

This study tested whether the Theory of Planned Behavior (TPB; Ajzen, 1991) explains consumers' intention to purchase eco-friendly products (EFPs). The researcher extended the TPB by including environmental concern in the model. The aim is to test whether this construct directly influences people's attitudes towards the purchase of these products. Furthermore, the study investigates whether consumers' search for information on EFPs and whether their price/quality sensitivity may also affect their intention to purchase these products. The respondent base is then divided by means of demographic segmentation in order to determine whether attitudes towards and intention to purchase EFPs differ between age, income and gender groups.

A survey was conducted among 100 customers of a well-known retailer, known for its selection of EFPs. The data obtained was analysed using SPSS software. The results found the TPB to be valid within an environmentally responsible purchase decision framework and that environmental concern does influence consumer attitudes towards the purchase of EFPs. This is in line with the findings of De Groot & Steg (2007) and Bamberg (2003) which also found that

environmental concern should not be seen as a direct determinant of behaviour, but an important indirect one. The emphasis should thus be on increasing consumers' level of environmental concern and then identify those consumers with favourable attitudes towards EFPs, rather than identify green consumers solely on the basis of environmental concern.

Furthermore, the study found that consumers' search for information and trust in product labelling affect their intention to purchase these products. This study suggests that the consumer ought to be educated on the differences between EFPs and regular products by means of advertising and label information. It also emphasises the need for claims made about EFPs to be substantiated. With regards to price and quality sensitivity, the results show that both these constructs affect consumers' attitudes towards and intention to purchase EFPs. Consumers will not readily buy an EFP if it is somewhat more expensive than a regular product and they are even less likely to purchase such a product if it does not meet the same quality standards.

With regards to demographic segmentation, the results show that women are more environmentally concerned than men and also have a greater intention to purchase EFPs in future. There is no difference between age groups in terms of their attitudes and intention to purchase EFPs but those aged 41-60 have greater volitional control over the purchase of these products as they are better able to afford them. Similarly, income groups show no difference in attitudes and intention but higher incomes groups have greater volitional control over the purchase of EFPs. Nevertheless, there was no difference found between age and income groups in terms of their price sensitivity. This brings into question the effectiveness of the premium pricing strategy currently employed by many manufacturers of EFPs as it seems that people with higher incomes, even though they are better able to afford EFPs, are not more willing to purchase these products if priced higher than regular products.

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EFP: Eco-friendly product

TPB: Theory of Planned Behvaviour

PBC: Perceived Behavioural Control

SN: Subjective Norms

CA: Cognitive Attitude

EC: Environmental Concern

CHAPTER 1: INTRODUCTION, MOTIVATION AND OBJECTIVES

As we are entering the 18th year after the signing of the Rio declaration, it is becoming more evident that the goal of sustainability is under threat. It could be argued that, with the rapid and widespread destruction of natural resources, humanity will soon face what many may describe as an environmental catastrophe (Lambin, 2007).

According to Fransson & Gärling (1999) this ongoing trend of rapid environmental decline is caused, amongst other reasons, by excessively high consumption levels. Also, as much of the efforts to lower these levels have been largely unsuccessful, they are set to increase even further. According to Fransson & Gärling (1999) a necessary condition for lasting change may be to increase consumers' environmental concern and knowledge about the effects of their consumption on the environment, thereby influencing their purchase decisions.

Parallel to this interest in consumer decision-making, there has been a growing emphasis on the role of businesses in a sustainability transition (D'Souza et al, 2007). The 1992 Rio conference and similar initiatives all emphasised that business should become more socially responsible and improve its environmental performance. This led to manufacturers modifying some of their production processes, mostly to meet new legislation requirements (D'Souza et al, 2007).

However, with the increase in consumer demands on protection of the environment and business becoming aware of their responsibility towards the objective of sustainability, retailers and manufacturers moved beyond simply addressing environmental regulatory issues and started to introduce alternative products that could be classified as eco-friendly (D'Souza et al, 2007). This led to a change in consumption behaviour when consumers started to evaluate the environmental consequences associated with the

purchase of a product (Follows & Jobber, 2000). Therefore, rather than cut down on their consumption, consumers began to seek out environmentally friendly alternatives amongst the products available.

However, at present, businesses find it difficult to predict consumers' reaction towards these products with a degree of accuracy that is necessary to enable the development of new targeting and segmenting strategies. This presumably has contributed towards several failures in green products development (D'Souza *et al*, 2007). The key lies in understanding the link between consumer attitudes about environmental protection (i.e. their concern about the environment) and their actual purchase behaviour regarding eco-friendly products or EFPs.

According to Bamberg (2003) numerous studies have shown that certain behaviours, such as the purchase of particular products, are driven by people's attitudes. Many of these studies base their research on the Theory of Planned Behaviour (TPB). The theory posits that intention is a dominant determinant of behaviour and that there are three factors influencing the intention to perform a certain behaviour. These are subjective norms (which refer to the social pressure to perform or not to perform a proposed behaviour), perceived behavioural control (PBC; which refer to the consumer's perception of the ease or difficulty to perform a certain behaviour) and the consumer's cognitive attitude towards a proposed behaviour - which is based on cognitive beliefs (Ajzen, 1991). The researcher argues that these beliefs would not only include beliefs about the purchase of EFPs, but also include positive beliefs about safeguarding and protecting the environment, which as was stated before, have shown a marked increase over the past two decades.

Although there are a range of criticisms of the TPB, which are discussed in some detail in the second chapter, it nevertheless provides a useful point of departure for this study. Some of the criticisms of the theory are due to the

methodological challenges of linking beliefs and attitudes to actual purchase behaviour. However, instead of examining the direct effect of these beliefs on purchase behaviour, this study follows the same line of reasoning as De Groot & Steg (2007) and rather examines whether positive environmental beliefs (i.e. environmental concern) directly influence consumers' attitudes towards the purchase of EFPs and hence indirectly influence consumers' intention to purchase these products. The reason for this approach is further defended in the second chapter.

According to De Groot & Steg (2007) only their study and another conducted by Bamberg (2003) has examined the relationship between environmental concern and pro-environmental behaviour within a TPB framework (i.e. whether environmental concern directly influence attitudes). It would therefore be useful to investigate this relationship further, especially with regards to environmentally responsible purchase behaviour. Also, as both these studies were conducted in developed countries (The Netherlands and Germany) it will be interesting to compare the results obtained in these studies with that of a study conducted in an emerging economy like South Africa.

Thus, by examining the role of cognitive attitudes, subjective norms and PBC on a consumer's intention to purchase EFPs it will be possible to determine whether the TPB model is valid within an environmentally responsible purchase behaviour framework. Also, by adding environmental concern to the model, the results of this study will indicate whether this construct directly influences consumers' attitudes towards the purchase of EFPs. This is an important addition to the study as Bamberg (2003) advised that future research should no longer view environmental concern as a direct predictor but as an important indirect determinant of behaviour. The role of environmental concern on attitude formation is therefore an area of research that requires greater attention.

Nevertheless, to fully understand the impact of environmental concern specifically on the formation of attitudes towards the purchase of EFPs, it is important to examine the influence of consumer's search for information on these products. According to Fransson & Gärling (1999) it is assumed that knowledge of a certain fact influences a person's attitude to it; i.e. if people are not aware that a specific factor contributes to environmental degradation they will not have a negative attitude towards it. Robert & Bacon (1997) agree with this assessment by stating that many consumers may not have the requisite knowledge to make sound ecological decisions. According to Stern (2000) most consumers fail to choose between products with different manufacturing processes, mostly because they are unaware of these differences.

Taking the above into consideration, one could thus assume that a necessary condition for a decision to purchase EFPs is a consumer's commitment to search for information on these products. Without this process the consumer, even though he/she may have favourable attitudes towards the purchase of an EFP, will not be able to distinguish an EFP from a regular product, hence reducing the chances of the former being purchased.

Another relevant area of research is whether price and quality sensitivity has an impact on a consumer's attitudes towards EFPs and their intention to purchase these products. According to Bamberg (2003) several studies have shown that attitudes supporting pro-environmental behaviours are most likely to be converted into action if the action itself requires little cost to the individual (this is also in line with the TPB's explanation of the PBC construct). Although researchers such as D'Souza et al (2007) claim that committed environmentalists may be more likely to purchase EFPs based on their environmental credentials (with price or quality being less of a factor in the purchase decision) one could still assume that, should a consumer be inconvenienced by having to acquire a low quality product or having to pay

excessive amount of money for it, there is a good probability that he/she will not purchase that product in future. It is for this reason D'Souza at al (2007) stated that it is still essential for marketers of EFPs to segment their markets based on the dimensions of price/quality characteristics and to quantify each segment for their attractiveness and purchase readiness.

D'Souza at al (2007) went further and stated that the EFP market should also be segmented based on demographic characteristics, for the obvious reasons that such segments are easy to identify and communicate with. Schlegelmilch & Diamantopoulos (1996) that the use of demographics are the most widely used variables for profiling purposes, given the relative ease with which socio-demographics can be measured and applied. However, Schlegelmilch & Diamantopoulos (1996) further stated that (at the time of publication) there was very little value in the use of socio-demographic characteristics for profiling environmentally-conscious consumers in the UK.

Furthermore, Gilg et al (2005) found that the research into the impact of socio-demographic variables on green consumption has led to the over-simplification of causative relationships. According to Gilg et al (2005) this has resulted in the development of a stereotypical view, if not a whole truism, that the green consumer is young, female and wealthy. The aim behind applying demographics in this study is to determine whether there is limited support for this finding and to establish whether a broader study on demographic segmentation is needed for the South African EFP market

Taking all the above into consideration, the researcher have thus identified the following objectives for this study:

- To test the TPB within an environmentally responsible purchase decision framework. In other words, to test whether cognitive attitudes, subjective norms and PBC directly influence a consumer's intention to purchase EFPs.

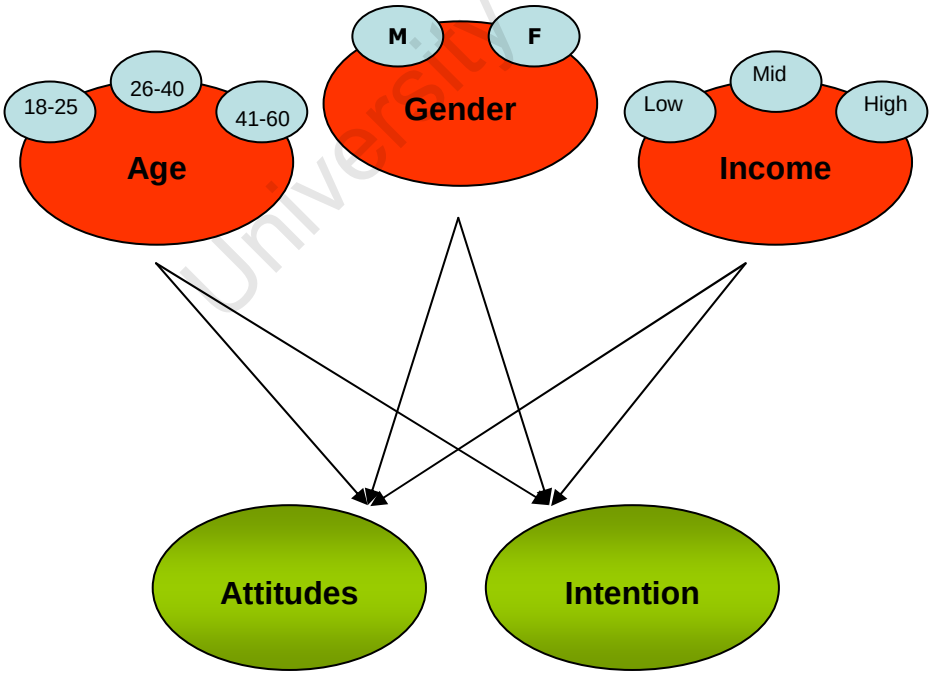
- To test the hypothesis that environmental concern directly influences consumers' attitudes towards the purchase of EFPs.

- To investigate how consumers' search for information on EFPs may affect their intention to purchase these products.

- To investigate consumers' price and quality sensitivity regarding the purchase of EFPs and how price and quality sensitivity are empirically linked with consumers' attitudes towards and intention to purchase these products.

- Lastly, to divide the respondent base by means of demographic segmentation and thus determine whether attitudes towards and intention to purchase EFPs differ between age, income and gender groups (see Figure 1.1).

Figure 1.1: Difference in attitudes and intention between segments



Monthly income: Low = R0 – 8000; Mid = R8001-20 000; High = R20 001 and more

The findings will contribute to the literature on the TPB by examining the role of environmental concern and testing the model on environmentally conscious purchase behaviour. Also, the results obtained from demographic segmentation as well as the information obtained on consumers' search for information and price/quality sensitivity will not only contribute to marketing literature but also provide insights to policy makers and marketing managers on how to increase the effectiveness of their communication programs. Thus, with improved communication initiatives, consumers may be motivated to support sustainability goals by making environmentally conscious purchase decisions.

This study is divided into six chapters. The second chapter contain the literature review which discuss, amongst other topics, the Theory of Planned Behaviour and the influence of environmental concern in purchase decisions. The third chapter discuss the methodology applied for the study and the fourth chapter provide the results obtained from the empirical research. This will follow with chapter five, which discuss the empirical findings. Lastly, chapter six will provide a summary of the study as well as recommendations for policy makers and marketing managers.

CHAPTER 2: LITERATURE REVIEW

The literature review will discuss the Theory of Planned Behaviour by examining its three constructs, namely attitudes, subjective norms and perceived behavioural control (PBC), as well as criticisms of the theory. The role of environmental concern in consumer purchase behaviour will then be discussed, followed by a discussion on demographic segmentation.

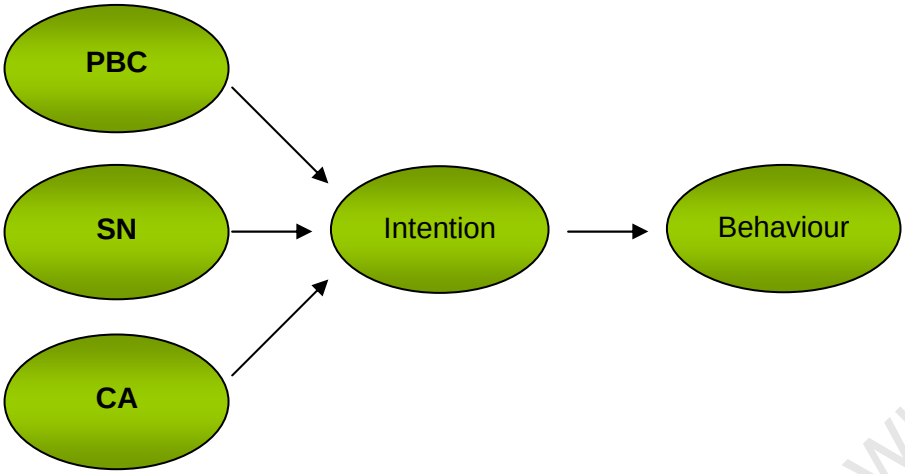
2.1 Theory of Planned Behaviour

The TPB, introduced by Ajzen (1991), was an extension of Fishbein & Ajzen's (1981) Theory of Reasoned Action (TRA). The TPB shares the same assumption as the TRA, in that the best predictor of human behaviour is people's intention to act in a certain way.

According to both the TRA and the TPB intentions are assumed to capture the motivational factors that influence people's actions because they are indications of "how hard people are willing to try to perform a behaviour" (Ajzen, 1991:181). In other words, intention will reflect the effort that people plan to exert in order to undertake a specific action. According to both the TPB and TRA, intention is, in turn, a function of two determinant factors, namely people's cognitive attitudes toward the behaviour in question and their subjective norms.

According to Kaiser & Scheuthle (2003) cognitive attitude could be defined as an individual's positive or negative evaluation of undertaking a specific action whilst subjective norms refers to his/her perception of other people's approval for performing a specific behaviour. It is the inclusion of a third factor, perceived behavioural control (PBC), which distinguishes the TPB from the TRA. According to Azjen (1991:188) PBC refers to the "perceived ease or difficulty of performing the behaviour in question which is to reflect both past experience as well as anticipated impediments and obstacles".

Figure 2.1: Model for the Theory of Planned Behaviour



PBC = Perceived Behavioural Control; SN = Subjective Norms; CA = Cognitive Attitudes
Source: Azjen (1991)

Thus, according to the TPB, individuals who hold positive attitudes towards a behaviour, who believe that there is normative support for engaging in this behaviour and who perceive that they have volitional control, should have strong intentions to perform the behaviour in question. It should be noted, however, that the influence of each of the three antecedents are expected to vary across different behaviours and situations (Ajzen, 1991).

Thus, it may be found that in some applications, for instance, only attitudes has a significant impact on intentions or in others that only subjective norms and PBC play a significant role. Nevertheless, although each of these constructs will vary in their contribution to intention depending on different situations, they will still contribute to an overall intention score – which could then be applied in determining behaviour (Ajzen, 1991).

To further unpack the TPB, each of these factors, namely cognitive attitude, subjective norms and PBC will be explained in greater detail. This will follow with a discussion on environmental concern and its proposed role in the TPB.

2.1.1 Cognitive attitudes

According to Fransson & Gärling (1999) attitudes towards certain actions are jointly determined by strengths of beliefs about the consequences of a specific behaviour and the evaluations of these consequences. In other words, according to Ajzen (1991) beliefs link a specific behaviour to certain outcomes and people then learn to favour those behaviours they believe will have desirable consequences and reject those behaviours they believe will have undesirable consequences. The TPB therefore postulates that beliefs will influence attitudes, which in turn may influence behaviour via intention to perform the behaviour. Taking the above into consideration, Azjen (1991) thus affirms that attitudes could provide an important explanation as to why people perform certain actions.

However, the literature shows that there is some controversy over the attitude-behaviour link as weak correlations between these two factors have been noted in environmental and social marketing literature (Schlegelmilch et al, 1996; Roberts & Bacon, 1997). For instance, research undertaken by Grankvist & Biel (2007) found that Swedish consumers held positive attitudes towards eco-labelled products but that these attitudes were not expressed in equally strong intentions to buy these products and, consequently, neither related to a high purchase frequency. Similarly, the results of a study undertaken by Robinson & Smith (2002) showed that consumers, on average, held supportive beliefs and attitudes with regard to purchases of sustainably produced foods but that many consumers were not confident in their ability to purchase these foods and were not likely to have highly supportive past purchasing behaviours.

The reason for these discrepancies could lie in the fact that certain behaviours are driven by habit. According to Grankvist & Biel (2007) it has been shown that if a behaviour is performed repeatedly, it may become habitual and be triggered automatically by specific situational cues.

Therefore, on a direct request, an individual may express a positive attitude toward a product but in an actual purchase situation this attitude could be inactivated or inaccessible (Grankvist & Biel, 2007). As the formation of habitual behaviours could be seen as a criticism against the TPB, it will be further discussed in section 2.1.4.

Nevertheless, taking all the above into consideration, one could argue that a positive attitude towards a behaviour may be necessary to predict certain actions but should not be seen as the only component used for this purpose. This is the reason why attitudes need to be coupled with other factors such as subjective norms and PBC to accurately predict behaviour.

2.1.2 Subjective norms

Apart from the TPB, studies conducted from the viewpoint of other theoretical stances, such as the social norms approach, have also found that perceived normative influences have a strong impact on a variety of different behaviours (Park & Smith, 2007). Although the TPB includes subjective norms as one type of normative influence, other distinctive types of norms have also been identified.

One of these are perceived descriptive norms, which according to Park & Smith (2007:196) could be defined as "an individual's beliefs regarding the popularity of the behaviour in question among those who are important to the respondent or whose opinion the respondent values". In other words, descriptive norms are determined by whether important others themselves do or do not perform the behaviour in question. Ajzen (2006; as quoted by Park & Smith, 2007) did recommend that, when applying the TPB, the measure of subjective norms should also include items designed to capture descriptive norms (for this reason, a question measuring descriptive norms was added to the questionnaire). There is still, however, some uncertainty about the distinctiveness between subjective and descriptive norms. For this

reason, Park & Smith (2007) stated that empirical tests are needed to answer whether these two types of norms could be separated from each other.

Nevertheless, subjective norms-intentions correlations are sometimes shown to be relatively weak (Latimer & Martin Ginis, 2005). Latimer & Martin Ginis (2005) provide two reasons for this. Firstly, the poor performance of subjective norms could be due to the predominant use of single-items for measuring the construct. Apparently, correlations between subjective norms and intention increase considerably when multiple items scales are used (a 3-item scale was used in this study) and, secondly, these low correlations could be explained by individual difference variables that moderate the subjective norms-intentions relationship.

One such variable, according to Latimer & Martin Ginis (2005), is people's "fear of negative evaluation", which implies that there are individuals who are highly fearful of social disapproval and others who are not as concerned that others will disapprove of them. It is therefore theorised that either one of these two types of mindsets will influence the scores obtained from measuring the subjective norms construct.

Taking the above into consideration, it does make reasonable sense to conclude that those people who are more concerned of what others think of them will be more influenced by subjective norms than those who are less concerned of what others think of them. It is for this reason that an additional question was added to the subjective norms construct for this study, specifically measuring the importance that a respondent places on social approval.

2.1.3 Perceived Behavioural Control

As stated earlier, the TPB can be distinguished from the TRA because of the

addition of the PBC construct, which as stated earlier refers to people's perception of the ease or difficulty in performing a specific behaviour (Azjen, 1991). The TRA, according to Fishbein & Ajzen (1981) holds that behaviour is under complete volitional control of the individual. This does not take into account such factors as the availability of opportunities and resources which may influence the level of control people have over the execution of a behaviour (Stern, 2000). It is obvious, for instance, that consumer behaviour such as the purchase of EFPs is dependent on the availability of resources such as time and money.

According to Ajzen (1991), of greater psychological interest than actual control, is the *perception* of behavioural control and its impact on intentions and actions. In other words, what is of importance in measuring intention and its influence on a behaviour is not the definite control a person has over the behaviour but his/her perceived control. This is because, according to Van Hooft et al (2005), the formation of an intention to perform a certain behaviour is more likely when individuals believe it is easier for them to perform that behaviour. In other words, the execution of a specific behaviour will be strongly influenced by the person's confidence in their ability to perform it. This implies, therefore, that the higher a person's PBC, the more likely he/she will perform a behaviour.

2.1.4 Criticisms of the Theory of Planned Behaviour

According to the TPB, intentions are seen as the sole determinant of human behaviour. However, according to De Cannière et al (2008), many reported studies lack objective measures of real behaviour to prove that behavioural intentions mediate the impact of the attitudinal antecedents under study. In those cases where adequate measures of actual behaviour are available, models such as the TPB often fail in predicting behaviour and showed low correlations between intentions and behaviour (De Cannière et al, 2008).

Nonetheless, even taking into consideration the results of some of these studies, there is still a substantial amount of evidence obtained from other studies that investigated the relationship between intentions and action (Ajzen, 1991). This research, mostly conducted for testing the TRA, took place over a period of 10 years and examined many different types of behaviours which have ranged from very simple strategy choices in laboratory games to actions of considerable personal or social significance, such as having an abortion or choosing among candidates in an election. According to Ajzen (1991) all these studies found a strong relationship between intention and behaviour. With the advent of the TPB, it was shown that when behaviours pose no serious problems of control, they could be predicted from intentions with even greater accuracy (Ajzen, 1991).

There is another criticism of the TPB that requires attention - the fact that the theory is based on the assumption that humans act rationally. According to Van Hooft et al (2005) this assumption indicates a major limitation of the theory, as people often act habitually and are not always consciously aware of the decision-making process leading to a behaviour.

Especially with regards to purchase behaviour it has been shown that convenience products such as bread or milk are purchased with little or no cognitive evaluation and are, in many cases, a behaviour guided by habits (Grankvist & Biel, 2007). According to Verplanken and Aarts (1999:104; as quoted by Grankvist & Biel, 2007) habits can be defined as "learned sequences or acts that have become automatic responses to specific cues, and are functional in obtaining certain goals or end states". In other words, if a behaviour provides the means for an individual to achieve some end goal and this behaviour is performed repeatedly it may then become habitual and will be triggered automatically by situational cues, rather than by a cognitive decision-making process.

Taking the above into consideration, one could agree with Stern (2000) that behavioural change will only take place when individuals are able to end their old habits and establish new ones. According to Grankvist & Biel

(2007) the termination of old and establishment of new habits should be seen as a process consisting of three phases. The first phase refers to identifying strong habitual or "frozen" behaviours; to then successfully change them, a new phase of "unfreezing" these behaviours needs to be initiated. The last phase is then guided by a conscious decision-making process where the individual is starting to execute a new behaviour and "freezing" it so as to create a new habit.

According to Grankvist & Biel (2007) a derivation of the above process is that new attitudes about a product may exert little influence on the purchase behaviour of consumers with frozen habits; but in a phase of unfreezing, new attitudes may become more influential and consequently also predictive of subsequent behaviour. This, of course, has implications for the proposed validity of the TPB as it implies that behaviour could eventually occur habitually, without the mediation of cognitive attitudes, subjective norms or PBC.

In response to this, Ajzen (1991) stated that we cannot assume past behaviour to be a valid measure of habit as it may reflect the influence of many other internal and external factors. According to Azjen (1991) it is only when habit is defined independently of (past) behaviour that it can legitimately be added as an explanatory variable to the TPB. Furthermore, if a measure of habit is defined in such a way it would most probably capture the "residues" of past behaviour that have established the habit in the first place; and cognitive attitudes, subjective norms and PBC are, of course, such residues of past experience (Azjen, 1991). Therefore, in summary, Azjen (1991) concluded that past behaviour is best treated not as a measure of habit but as a reflection of all factors that determine the behaviour of interest.

2.2 The role of environmental concern

As previously stated, attitudes towards certain actions are jointly determined by strength of beliefs about the consequences of a specific behaviour and the evaluations of these consequences. Beliefs about a certain behaviour therefore influence attitudes and, according to the TPB, will then influence intention, resulting in the actual execution of the behaviour. As stated in the first chapter, in the case of purchase behaviour regarding EFPs, the researcher argues that these beliefs will not only include beliefs about the actual behaviour itself (i.e. the purchase of EFPs) but also include beliefs about safeguarding and protecting the environment – which, as was stated before, have shown a marked increase over the past two decades. According to Dunlap et al (2000) these environmental beliefs could also be referred to as "environmental concern".

The influence of environmental concern on actual purchase behaviour will be further discussed. However, this will be preceded by a discussion on the emergence of this field of study.

2.2.1 The emergence of environmental concern

According to Dunlap et al (2000) the underlying worldview that has guided our relationship with the physical environment is currently being re-evaluated and has already led to fundamental changes in thinking. The emergence of a more ecologically sound worldview is, according to Dunlap et al (2000), mainly due to people's recognition that their activities are altering the ecosystems on which they are dependent, coupled with growing acknowledgement of the necessity for sustainable forms of development.
The emergence of this new worldview led to a wave of environmental concern amongst many members of the world's population which, according to Fransson & Gärling (1999:370), could be defined as an "evaluation of, or an attitude towards facts, one's own behaviour, or others' behaviour with

consequences for the environment". With this change in thinking came the corresponding insight that environmental problems are the consequences of maladaptive human behaviour, which then motivated social scientists to engage in the analysis of individual motives underlying this behaviour (Bamberg, 2003).

According to Bamberg (2003) one central assumption of this research was that the degree of environmental concern has a strong direct impact on people's behaviour in specific environmentally related fields such as recycling, energy saving and the use of public transport. Some of these studies, however, produced results which found the direct empirical relationship between environmental concern and behaviour to be either low or moderate (Follows & Jobber, 2000; Bamberg, 2003). The reasons for these proposed low correlations will be discussed in the following section.

2.2.2 The correlation between environmental concern and behaviour

As stated above, several studies have shown a weak direct relationship between environmental concern and pro-environmental behaviours. The literature identified two specific reasons for these low correlations, namely lack of knowledge and the lengthy process of changing habitual behaviour.

- **Lack of environmental knowledge**

According to Fransson & Gärling (1999) one factor that should explain the weak relationship between environmental concern and environmentally responsible behaviour is people's lack of environmental knowledge. Environmental knowledge, according to D'Souza et al (2007:71), could be defined in simple terms, namely "what people know about the environment and the beliefs that they hold about key environmental aspects or impacts". In broadening this definition, D'Souza et al (2007) further stated that environmental knowledge forms the basis of environmental awareness and

beliefs. This implies, therefore, that environmental knowledge will indirectly influence attitudes towards pro-environmental behaviours.

Fransson & Gärling (1999) agree that knowledge of issues and of behaviour strategies are important moderators of whether or not attitudes predict behaviour. This assumption was proven correct by Fransson & Gärling (1999) when their research confirmed that the single factor which most clearly differentiated environmentalist and non-environmentalist groups was knowledge about specific environmental problems and how to act in order to most effectively deal with them.

Therefore, taking the above into consideration, one could assume that those consumers who are knowledgeable about environmental problems will show greater motivation towards purchasing EFPs. This presents a problem for marketers of these products as it was found that objective knowledge of environmental issues was relatively low among environmentally concerned consumers (Roberts & Bacon, 1997). This means, therefore, that although many consumers may show high levels of environmental concern, they may not have the requisite knowledge to make sound ecological decisions, such as choosing to purchase EFPs.

▪ **The protracted process of behavioural change**

As described earlier, behavioural change could be best described as a process consisting of three steps, namely identifying a habitual behaviour, "unfreezing" it and replacing it with a new habit. According to Grankvist & Biel (2001) general factors such as environmental beliefs are hypothesized to be more influential in the early phases of behavioural change while specific beliefs about particular products are more influential in later phases. This could mean, therefore, that increased environmental concern may be an important contributor to initiating a change in behaviour but that such concern will itself not guarantee that consumers switch to EFPs.

In a later study, Grankvist & Biel (2007) found that many consumers regarded environmental consequences as an important choice criterion in choosing between alternative products (i.e. eco-friendly and regular products) but found that, with this attitude change, there ran a parallel process where the old behaviour (to buy regular products) lingered on while this favourable environmental attitude was still developing. According to Grankvist & Biel (2007) it is only when the more favourable attitude is associated with the old behaviour that it will start influencing actual purchase behaviour. This implies, therefore, that environmental concern will only be "activated" as a purchase criterion when consumers become aware that their old behaviour is not supportive of their new set of environmental beliefs.

Taking the above into consideration, one may assume that the measurement of environmental concern and its proposed impact on purchase behaviour may be an unnecessary exercise. However, as will be discussed in Section 2.2.3 below, general determinants such as environmental concern may still have an important indirect effect on behaviour via their effect on the antecedents of a specific behaviour.

2.2.3 The impact of environmental concern on purchase behaviour

As stated earlier, only two studies, those conducted by Bamberg (2003) as well as De Groot & Steg (2007), have examined the relationship between environmental concern and environmental behaviour within a TPB framework. According to Bamberg (2003) the disappointment shown by researchers about the weak direct relationship between environmental concern and pro-environmental behaviour is due to the incorrect assumption that a general set of environmental beliefs are direct determinants of specific behaviours.

According to Bamberg (2003:23) environmental concern is an important indirect determinant of specific environmental behaviours as it operates via its impact on the "generation of situation-specific cognition". In other words, Bamberg (2003) explains that a construct such as environmental concern could act as a heuristic in many daily situations where people have to make quick decisions, in effect helping the individual to frame the decisional problem. This is in line with the theoretical assumptions of the TPB, which also postulates that only situation-specific cognition is a direct determinant of a specific behaviour. It is for this reason that Bamberg (2003), in line with the theoretical assumptions of the TPB, advised that future research should no longer view environmental concern as a direct, but as an important indirect determinant of specific behaviour.

This specific study follows the same line of reasoning, as it will examine the influence of environmental concern on purchase behaviour by first measuring its effect on attitude formation.

2.3 Segmenting the EFP market

One of the hypotheses of this study is that the purchase of EFPs could be driven (indirectly) by environmental concern. Should this hypothesis be correct, it may make strategic sense for retailers and manufacturers to target segments of the population who are likely to be concerned about environmental issues with EFPs. According to D'Souza at al (2007), this is the reason why green consumer segments need to be identified, as an evaluation of the profile of a green consumer can lead to a more practical understanding of progress towards green initiatives such as the manufacturing and distribution of EFPs.

This study will aim to identify the "green consumer" by segmenting the respondent base by means of demographic variables. According to Gilg et al

(2005) demographic profiling of green consumers has led to the stereotypical view that green consumers are, amongst other qualities, young, female and wealthy. This assumption will be tested within this study, as the demographic variables of age, gender and income will be cross-tabulated with other factors such as current purchase behaviour, purchase intention and environmental concern. Preceding this it will be necessary to first provide the reader with a basic understanding of the definition, process, goals and bases for market segmentation.

2.3.1 Definition and process of market segmentation

Wendell Smith (1956:5) first defined market segmentation as "viewing a heterogeneous market as a number of smaller markets, in response to differing preferences, attributable to the desires of consumers for more precise satisfaction of their varying wants". Smith's definition of market segmentation, which paved the way for other definitions, remained relatively unchanged over the years.

McDonald and Dunbar (1995) developed a more complete definition than the definition developed by Smith (1956). McDonald and Dunbar (1995:11) stated that market segmentation is "a process of splitting consumers into different groups or segments within which consumers with similar characteristics have similar needs and which can be targeted and reached with a distinct marketing mix". Although more complete, McDonald and Dunbar's (1995) definition is also different in that they define market segmentation as a process.

This process of market segmentation according to Dibb (2000) is generally considered to consist of three stages namely segmentation, targeting, and positioning. During the segmentation stage, consumers are grouped into segments using one or a combination of variables. The aim is to collect together those with similar needs and buying behaviour. Next, the company

chooses the segment(s) on which to target marketing resources. The final stage, positioning, involves the design of marketing programmes that will match the needs of consumers in the segments chosen. For the purposes of the study, the main focus will be on the first stage of market segmentation, namely the segmentation stage.

2.3.2 The goals behind segmentation

The underlying aim of market segmentation is to group consumers with similar needs and buying behaviour into segments, so that each segment can be reached by a distinct marketing mix (Meadows & Dibb, 1998). This is because, according to Kara & Kaynak (1996), it will in most cases be almost impossible to satisfy all consumers in a single market with the same marketing programme. The breadth of consumer requirements is just too diverse for single businesses to satisfy all the consumer product and service needs all the time.

It is for this reason that Dibb & Simkin (1997) found businesses are more likely to achieve a match between their particular assets and the diversity of needs by concentrating efforts on segments with fairly homogeneous requirements. The idea is thus to bridge the gap between diverse consumer needs and a business' limited resources by encouraging distinct product and marketing offerings to be developed to suit the requirements of different consumer segments (Meadows & Dibb, 1998).

Market segmentation is therefore fundamental to creating successful marketing strategies as it provides effective guidelines for a business' marketing strategy development. This, according to Lamb et al (2004), is mainly due to the fact that market segmentation provides marketers with information to help them design marketing mixes specifically matched with the characteristics and desires of one or more segments. The information gathered through segmentation analysis can then also shed light on the marketing programme requirements of particular consumer groups which

can help businesses to adjust their promotion decisions to reach each market more effectively (Lamb et al, 2004).

2.3.3 Bases for market segmentation

A business' segmentation strategy and its choice of one or more target markets depend on its ability to identify the characteristics and needs of consumers within those markets. This involves selecting the most relevant segmentation bases to identify and define the target markets (Ferrel & Hartline, 2005). These bases could include behavioural, psychographic, geographic or demographic differences. Using these segmentation bases, marketers can divide a total market into different segments.

This study will make use of demographic segmentation. This method of segmentation consists of dividing the market into groups based on demographic variables such as age, income and gender. Demographics is arguably the most popular basis for segmenting consumer groups. This popularity may occur due to several advantages that such an approach can provide. One of the greatest advantages of demographic segmentation, according to Ferrel & Hartline (2005), lies in the relative simplicity of collecting information concerning demographic variables such as age, income and gender and the fact that these variables are also relatively reliable and simple to measure. Another considerable benefit, according to Alfansi & Sargeant (2000), is that segment sizes based on demographics are normally large because they parcel the total population into a limited number of segments; communication with these segments are then also relatively easy and the implementation of an adapted marketing mix unproblematic.

One of the drawbacks of demographic segmentation, according to Spence et al (1997), lies in the fact it is silent regarding consumer behaviour or motivations which would result in their purchasing behaviour. This is

because the motives and values that drive actual purchases do not necessarily have anything to do with consumer demographics. For instance, most consumers have the same basic needs for food, housing and transportation. These needs do not necessarily vary according to demographic characteristics (Ferrel & Hartline, 2005).

Nevertheless, given the main advantages of demographic segmentation – the ease of identifying and communicating with demographic segments – the researcher holds that by dividing the EFP market in this way, useful information could still be obtained for marketers and policymakers. If it is possible to identify those segments which tend to show greater environmental concern and purchase intention of EFPs, then this information could be applied to better those communication strategies aimed at motivating consumers to purchase these products.

CHAPTER 3: METHODOLOGY

This chapter will examine the methodology that was applied in the execution of this study. The empirical investigation, in terms of research design, sampling plan, research instrument and data analysis will be discussed in greater detail.

3.1 Research design

According to Tustin et al (2005) the research design is the plan to be followed in order to realise the research objectives. It therefore represents the master plan that specifies the methods and procedures for collecting and analysing the required information. There are three types of research designs namely exploratory, casual and descriptive designs (Struwig & Stead, 2001). Although parts of this study could be seen as exploratory, it is still to a large extent based on a descriptive design as, in line with the description of Jankowicz (2005), it will aim to identify the crucial features of the population or situation under study and describe the features and issues which arise as accurately as possible. According to Cooper & Schindler (2003) descriptive research studies could serve a variety of research objectives, namely descriptions of phenomena or characteristics associated with a subject population, estimates of the proportions of a population that have these characteristics and the discovery of associations among different variables.

3.2 Sampling plan

According to Cooper & Schindler (2003:179) the basic idea behind sampling is that, by selecting some of the elements of a population, a researcher may draw conclusions about the entire population. Sampling is therefore necessary because it would be impossible to reach every person in a population, as it would be in a census, mainly due to time and financial

constraints. Obtaining information from a sample is therefore more practical. However, before the sample can be taken, it is first necessary to define the target population.

3.2.1 The population

According to Lancaster (2005:153) a population can be defined as 'the full set of items or people under investigation'. This is the group from which the sample will be drawn and according to Tustin et al (2005:96) it should include all the people or establishments whose opinions, behaviour, preferences and attitudes will yield information for answering the research question.

In order to achieve the focus on consumer purchase behaviour, the customer base of Woolworths, a South African retail company known for their selection of EFPs, was chosen as the target population. More specifically, those customers residing in the Cape Town metropolitan area were identified as potential respondents for this study. There is an important implication of choosing this as the study's target population. Woolworths cater mostly for the higher income segments of the South African population, which could have contributed towards producing a skewed sample. Nevertheless, as shown in Chapter 4, sections 4.5.1 the sample chosen provided an even spread between higher and lower income segments. The target population therefore consisted of Woolworths customers within the Cape Town area, varying between different demographic profiles. The demographics of the study population are summarised in Chapter 3. In total, 100 respondents took part in the survey. This limited number was chosen primarily because of limited funds available for the study. As discussed in section 3.2.2 below, a convenience sampling method was applied. Respondents were approached by the interviewer with a Woolworths voucher of R20 as an incentive to participate in the survey. It was found that without this incentive, most consumers that were

approached and asked to participate were not willing to do so.

3.2.2 Sampling method

A decision had to be made whether to use a probability or a non-probability approach to drawing the sample. Each approach has different methods which will determine how the sample units/elements will be selected. It was decided that this study will make use of non-probability sampling, specifically applying a convenience sampling method.

According to Cooper & Schindler (2003:184) non-probability sampling differs from probability sampling in that each member of the population does not have a known non-zero chance of being included. In other words, there is no way of estimating the probability that any member of the population will be included in the sample.

Specifically with convenience sampling, sample members are chosen on the basis of being readily available or accessible. Selection is therefore done on the basis of convenience only. According to Churchill & Iacobucci (2005) this makes a study more manageable in terms of the time and resources available; which is the main reason behind the decision to employ convenience sampling in this specific study, as the research was not funded and had to be completed within a short period of time. Furthermore, because Woolworths was not willing to divulge the contact details of their customers the researcher was not in possession of a sampling list, which meant that a probability sampling method could not be applied. The main disadvantage of using a non-probability sampling approach is that the researcher has no way of knowing if those included are representative of the target population (Churchill & Iacobucci, 2005:326).

For this study the target audience was easy to identify as it consisted of Woolworths customers with a broad set of demographic characteristics.

Choosing the respondents was therefore a relatively simple task, as the interviewer only had to ensure that the population adequately represented certain demographic groups.

3.3 Research instrument

According to Tustin et al (2005) questionnaire design involves the construction of questions and response options based on the research study's objectives. To align the questionnaire with the research goals it was divided into different sections, each dedicated to a specific area of research.

Firstly, the respondent's willingness to search for information related to EFPs was tested. This was done by means of three questions, all adapted from the research instrument of Minton & Rose (1997). These items measure two ways to search for information, namely comparing package label information as well as noticing and paying attention to advertisements about EFPs. This was achieved by means of an 11-point Likert scale where 0 is 'never' and 10 is 'almost always'. Likert scales, according to Myers (1999), is an effective method for measuring a respondent's attitude towards an attribute and are also user friendly in that it minimizes confusion and misunderstanding. This aids in lowering respondent fatigue and ensures a higher response rate, which was vital for this study. According to Babbie & Mouton (2003) the value of Likert scales also lies in the unambiguous ordinality of response ratings such as 'never, almost always' which makes it easier for the respondent to judge the relative strength of agreement intended by the various respondents.

The next two sections, namely price/quality beliefs and price/quality sensitivity were measured with two questions each; the first asking respondents whether they believed that EFPs are more expensive and of better quality than regular products whilst the second asked respondents whether they would purchase EFPs even if it is slightly more expensive and

of slightly lower quality than a regular product.

The next four sections namely PBC, subjective norms, cognitive attitude and purchase intention dealt with the TPB. The questions for each of these sections were developed after consulting the literature surrounding the TPB and its different components. With regards to purchase intention, respondents were asked whether they intend to purchase EFPs or will continue to purchase EFPs in the near future.

Respondents' level of environmental concern was measured with questions 19 to 24, all of which were adapted from the *New Ecological Paradigm (NEP)* scale developed by Dunlap et al (2000). The NEP scale contains statements such as: ''humans are severely abusing the environment'' and ''plants and animals have as much right as humans to exist''. The NEP scale was adapted from a previous scale developed by Dunlap & Van Liere (1978), namely the *New Environmental Paradigm*, which had become a widely used measure of pro-environmental orientation. According to Dunlap et al (2000) the new and revised NEP scale was designed to improve on the original one in several aspects as it, amongst other factors, avoids outmoded terminology.

The new scale consists of 15 items, but due to time constraints, it was decided that the scale adopted in the present study be reduced to 6 items. As shown below, this did not lower the validity of the scale as all the constructs were tested for reliability and the construct of environmental concern (measured by the adapted NEP scale) still produced a Cronbach's Alpha value of .713. However, one possible drawback of applying a scale such as the NEP is the risk that it may produce a "halo-effect", in that respondents feel obliged to give "socially-acceptable" answers, hence producing unreliable responses.

Lastly, the demographic variables of gender, age and income was utilized as

independent variables in order to compare different segments of the population in terms of the constructs measured. These demographic variables were also used to ensure that the demographic characteristics of the population were not too narrow for the sample utilized.

The TPB and EC constructs were tested for reliability by means of the Cronbach's Alpha Coefficient, which refers to the extent to which test scores are accurate, consistent or stable (Lancaster, 2005). As shown in Table 3.1, three of the constructs measured in terms of the Cronbach's Alpha Coefficient gave a score above 0.7, indicating that the results obtained from these constructs are reliable. However, from Table 3.1 it can be seen that in one case, that for Perceived Behavioural Control, the Cronbach's alpha value was lower than the accepted cut-off point of 0.7. This might be attributable to the fact that only three items were used for measuring this construct. Field (2005) however, states that low Cronbach's alpha values can be expected in most social science studies and values of smaller than 0.7 might be acceptable owing to the diversity of constructs being measured if the study deals with psychological constructs like attitudes and opinions (as is the case in this study).

Table 3.1 Results of reliability test performed on questionnaire

Construct	**Items**	**Cronbach's Alpha**
Perceived Behavioural Control	3	.684
Subjective Norms	3	.850
Cognitive Attitude	3	.870
Environmental Concern	6	.713

3.4 Administration of the research instrument

The questionnaire in this study was administered by two interviewers. According to Cooper & Schindler (2003) a personal interview is a two-way

conversation initiated by an interviewer to obtain information from a participant. The greatest value of using personal interviews lies in the depth of information and detail that can be secured. This is because the interviewer can note conditions of the interview, probe with additional questions and gather supplemental information through observation (Cooper & Schindler, 2003). Another important advantage, according to Jankowicz (2005), is the ease with which the researcher can express complex ideas by amplifying the meaning of items and explaining the intention behind certain questions. Struwig & Stead (2001) also found personal interviews to provide good response rates, since the interviewer is often able to persuade individuals to take part in the research study.

One drawback of personal interviewing is that it is an expensive method for data collection because of the training that interviewers need to receive as well as the fact that many interviewers are usually needed to conduct the interviews (Cooper & Schindler, 2003). These costs can also increase if the study covers a wide geographic area or has stringent sampling requirements (Cooper & Schindler, 2003). For this study, however, only two interviewers were required and the study was restricted to certain areas of the Cape Town Metropole. Also, as a convenience sampling method was utilised, there were no strict sampling requirements to adhere to.

3.5 Data analysis

Data analysis was executed with the use of the SPSS software package which provides comprehensive statistical tools for a wide range of statistical analyses. These statistical analyses include, amongst others, categorical data analysis, cluster analysis, multiple imputation, multivariate analysis and sample size computations. In this study, the SPSS software will be used to determine descriptive statistics, multiple regression and practical significance.

3.5.1 Descriptive statistics

The purpose of descriptive statistics is to provide an overall and coherent picture of a large amount of data in order to describe group or sample performance (Struwig & Stead, 2001). This is usually done by means of measures of central tendency such as the mode (most frequently occurring score), the mean (average score) and the median (the score that has an equal number of scores above and below it) (Struwig & Stead, 2001). According to Cooper & Schindler (2003) these measures provide the researcher with helpful tools for 'cleaning' the data as well as discovering problems and summarizing distributions.

3.5.2 Multiple Regression

According to Hair et al (2006) multiple regression analysis is a statistical technique that can be used to analyse the relationship between a single dependent variable and several independent variables. Its basic formulation is: $Y_1 = X_1 + X_2 + \ldots\ldots + X_n$

To apply multiple regression analysis the data must be metric or appropriately transformed and secondly, before deriving the regression equation, the researcher must decide which variable is to be dependent and which remaining variables will be independent (Hair et al, 2006). Once this is completed the researcher uses the independent variables to predict the single dependent value selected by him/her. According to Hair et al (2006) regression models are frequently used to study how consumers make decisions or form impressions and attitudes. For this reason, multiple regression was a useful analytical tool for this study.

3.5.3 Practical significance

In order to determine whether there are differences between the various groups under study, effect sizes indicating practically significant effects (d-

values) were calculated by using the following formula (Cohen, 1988):

$$d = \frac{\left|\overline{x}_1 - \overline{x}_2\right|}{s_{\max}}$$

where:

- d = effect size;
- $\overline{x}_1 - \overline{x}_2$ is the difference between means of two compared groups; and
- $s_{\max}$ is the maximum standard deviation of the two compared groups.

Effect sizes were interpreted as follows (Cohen, 1988):

- d ≈ 0.2 indicating a small effect with no practical significance;
- d ≈ 0.5 indicating a moderate effect; and
- d ≈ 0.8 or larger indicating a practically significant effect.

However, Cohen (1988:25) did state that the terms 'small', 'medium' and 'large' are relative, not only to each other, but also to the area of behavioural science or even more particularly to the specific content and research method employed in any given investigation.

CHAPTER 4: RESULTS

In this chapter the results obtained from the empirical research is presented. This is done by examining the data in terms of the respondents' scores on specific questions and constructs related to the TPB as well as the demographic details of the respondents who took part in this survey. These demographics include gender, age and income.

4.1 The TPB constructs and environmental concern

In this section, the mean scores for the constructs environmental concern, PBC, subjective norms, cognitive attitude and intention will be analysed.

4.1.1 Environmental concern

As shown in Table 4.1 (providing the mean scores for those items measuring environmental concern by means of an adapted NEP scale with a range of 0 to 10) respondents show high scores for each of the questions asked. The highest score (9.29) was for question 23, asking respondents whether they agree that "humans are severely abusing the environment". The lowest score (7.68) was for question 19, asking if respondents agree that "we are approaching the limit of the number of people the earth can support". Also, as shown in Table 4.1, the overall environmental concern mean score is 8.51.

With such high scores for environmental concern and the fact that no respondents showed a mean score below 5, one could deduce that nearly all respondents can be labelled as environmentalists. Nonetheless, two groups were still identified within the population; those that can be classified as moderate environmentalists or "Moderates" and those that can be classified as committed environmentalists or "Devotees". This was done by first obtaining the population's overall environmental concern score and then

determining its lower and upper quartiles (which were 7.5 and 9.67 respectively). Moderates are all those respondents who showed an EC score of 7.5 or below and Devotees all those who scored 9.67 or above. The overall purchase frequency and intention to purchase mean scores, as well as the mean scores on information search and trust in label information for both Moderates and Devotees were calculated and is shown in Table 4.2.

Table 4.1: Environmental Concern

Question	**N**	**Mean**	**St. Dev.**
19: We are approaching the limit of the number of people the earth can support	100	7.68	3.051
20: The so-called "ecological crisis" have been greatly exaggerated	99	8.12	2.106
21: Plants and animals have as much right As humans to exist	99	8.79	2.086
22: The balance of nature is not strong enough to cope with the impact of modern industrial nations	100	8.41	2.375
23: Humans are severely abusing The environment	100	9.29	1.373
24: If we continue as before we are approaching an environmental catastrophe	100	8.78	1.761
Total: Environmental Concern	**100**	**8.51**	**1.398**

As shown in Table 4.2, the intention to purchase scores for Moderates and Devotees are 6.30 and 8.17 respectively. These scores were compared by means of Practical Significant Difference Testing, showing a d-value of 0.71 (signifying a moderate effect size). Moderates and Devotees were also compared by means of how frequently they pay attention to advertisements about eco-friendly products; also providing a moderate effect size (d = 0.75). Also, when comparing moderates and advocates in terms of their attitudes towards the purchase of EFPs, a practically significant difference (d = 0.92) was found.

Table 4.2: Comparison between Moderates and Devotees

Construct	Moderates			Devotees			d-value
	N	Mean	St. Dev	N	Mean	St. Dev	
Intention	27	6.30	2.628	30	8.17	2.086	0.71*
Cognitive attitudes	27	6.94	2.391	30	9.13	1.466	0.92**
Compare label information	27	4.44	3.250	30	4.73	4.177	0.09
Pay attention to ads	27	4.44	3.004	30	6.70	2.769	0.75*
Trust in label information	27	6.78	2.873	30	8.10	2.808	0.46
Price Sensitivity	27	5.11	2.95	30	6.27	3.552	0.32

* indicates a moderate effect.

** indicates a practically significant effect

When comparing Moderates and Devotees on other constructs such as current purchase frequency and comparison of label information, there is almost no difference found between these two groups. Also, with regards to trusting label information, only a small effect size was found when comparing the two groups (0.46); although a d-value of 0.46 is close to being a moderate effect size (i.e. being 0.5 or more)

4.1.2 Perceived Behavioural Control

As shown in Table 4.3, the mean score for PBC is 5.93 (with a scale range of 0 to 10), which is relatively low. The assumption is thus that consumers have a moderate level of control over the behaviour under question (i.e. the purchase of EFPs).

Table 4.3: Perceived Behavioural Control

Question	N	Mean	Std. Dev.
I think EFPs are easily accessible	98	5.15	2.760
I can easily afford EFPs	97	6.00	2.746
If I wanted to, I could easily buy EFPs	99	6.60	2.676
Total: PBC	**100**	**5.93**	**2.208**

4.1.3 Subjective norms and the importance of social approval

In Table 4.4 below, it is seen that the average mean score for subjective norms is also relatively low (5.66). One item, measured by Q22, specifically measures a descriptive norm (i.e. whether important others themselves do or do not perform the behaviour in question – in this case, the purchase of EFPs) has shown a mean score of 5.07. It is also interesting to note that the "importance of social approval construct", measured by Q23, showed a mean score of 4.27.

Table 4.4: Subjective norms & importance of social approval

Question	**N**	**Mean**	**Std. Dev.**
People who's opinion I value would think that I should rather buy EFPs than regular products	99	5.63	3.135
People who are important to me would rather buy EFPs than regular products	99	5.07	3.249
People who's opinion I value would think that buying EFPs is the acceptable thing to do	100	6.24	3.143
Total: Subjective Norms	**100**	**5.66**	**2.787**
It is important that the people I value approve of my actions (importance of social approval)	100	4.27	3.598

4.1.4 Cognitive Attitude

As shown in Table 4.5, consumers show very positive attitudes towards the purchase of EFPs, with an overall mean score of 8.12.

Table 4.5: Cognitive Attitude

Question	**N**	**Mean**	**Std. Dev.**
Purchasing EFPs is a good thing to do	100	8.61	1.953
Purchasing EFPs is a wise thing to do	100	8.59	2.011
Purchasing EFPs is or would be more rewarding than buying regular products	100	7.15	3.160
Total: Cognitive Attitude	**100**	**8.12**	**2.173**

4.1.5 Intention

As shown in Table 4.6 purchase intention has a mean score of 7.40, showing that, on average, consumers intend to purchase EFPs in the near future.

Table 4.6: Intention and overall purchase behaviour

Question	N	Mean	Std. Dev.
I intend to buy EFPs or will continue to buy EFPs in the near future	100	7.40	2.433

4.2 Modelling the TPB and environmental concern

In order to determine whether the constructs of the TPB accurately predict purchase intention, the latter was regressed on cognitive attitude, subjective norms and PBC. The relationship between environmental concern and cognitive attitudes was also investigated.

Firstly, as shown in Table 4.7, environmental concern was positively related to cognitive attitudes. This construct explained 12.1 percent of the variance in attitudes of respondents and the relationship showed a beta value of .35 ($p < 0.001$).

Table 4.7: Environmental Concern on Cognitive Attitude

Construct	St. Coefficients		R^2	Adjusted R^2	ANOVA	
	Beta	Sig.			F	Sig.
Environmental Concern	.348	0.00	.121	.112	13.49	0.00

As stated earlier, intention to purchase EFPs was regressed on cognitive attitudes (CA), subjective norms (SN), and perceived behavioural control (PBC). As shown in Table 4.8, the three variables explained 46.2 percent of the variance in intentions to purchase EFPs. All three variables also

contributed to the explanation of intention to purchase EFPs. Although not significant predictors, subjective norms (β = .151, p ‹ 0.001) and PBC (β = .127, p ‹ 0.001) still contributed to intention. The best predictor is cognitive attitudes with a beta value of .583 (p ‹ 0.001).

Figure 4.1: Proposed TPB model with Environmental Concern (Beta values)

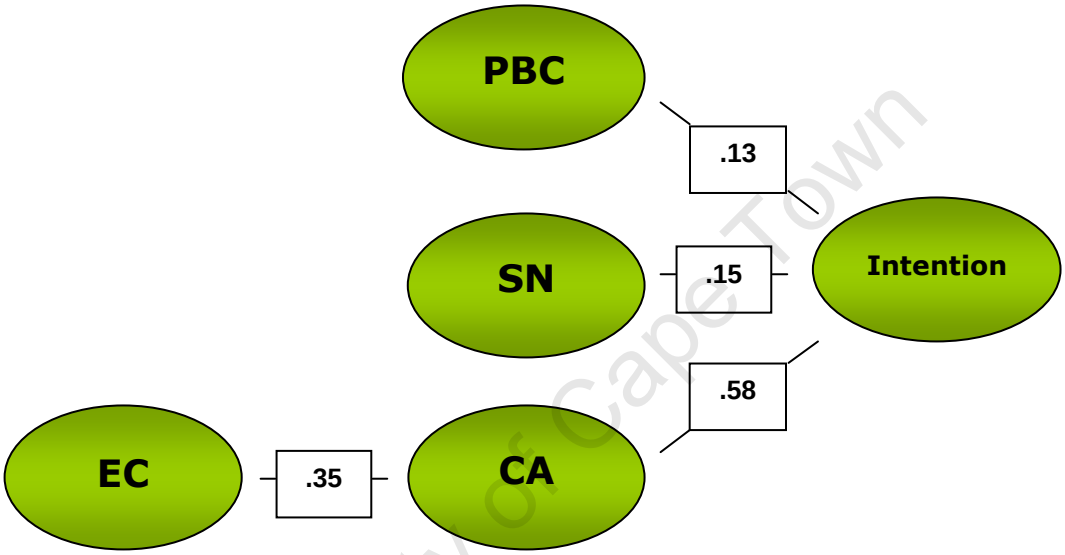


Table 4.8: TPB Constructs on Intentions

Construct	St. Coefficients		R^2	Adjusted R^2
	Beta	Sign		
Total	-	-	.462	.445
Cognitive attitudes	.583	0.001		
PBC	.127	.094		
Subjective Norms	.151	.069		

4.3 Information search & respondents' trust in product labelling

As shown in Table 4.9 below, respondents gave a low score (4.36) when asked how frequently they compare label information to determine whether a product is eco-friendly. They also showed a relatively low score (5.72)

when asked if they pay attention to advertisements about eco-friendly products. Nevertheless, consumers showed a high score (7.61) when asked whether they trust the label information on those products which claim to be environmentally friendly.

Table 4.9: Information search and trust in label information

Question	N	Mean	Std. Dev	Upper Quartile	Lower Quartile
Q1: Comparing label information	100	4.36	3.563	8.00	0.00
Q2: Pay attention to advertisements	100	5.72	2.857	8.00	4.00
Q3: Trust in label information	100	7.61	2.640	10.00	6.00

Also, as shown in Table 4.9 the upper and lower quartile scores for Q1 are 8.00 and 0.00 respectively. Based on these scores the respondent base was divided into two groups; namely those who regularly compare label information (i.e. those who scored 8.00 and above on Q1) hence known as "Label Seekers" and those who less regularly compare label information (i.e. those who scored 0.00 on Q1) hence known as "Label Slackers". The mean cognitive attitude, intention and trust in product information scores for Label Seekers and Label Seekers were determined and are summarised in Table 4.10.

Table 4.10: Comparison between Label Seekers and Label Slackers

Construct	Label Seekers			Label Slackers			d-value
	N	Mean	St. Dev	N	Mean	St. Dev	
Cognitive Attitude	26	8.65	1.994	27	7.90	1.917	0.38
Intention to purchase	26	8.23	2.372	27	6.33	2.746	0.69*
Trust in product information	26	7.73	2.459	27	7.37	3.353	0.11

* indicates a moderate effect.

As shown in Table 4.10, cognitive attitude, intention and trust in product information scores for Label Seekers are 8.65, 8.23 and 7.73 respectively

and for Label Slackers 7.90, 6.33 and 7.37 respectively. These scores were compared by means of practically significant difference testing. The d-values obtained show a moderate effect size when comparing Label Seekers and Label Slackers in terms of their intention to purchase EFPs (0.69).

Table 4.11: Comparison between Ad Seekers and Ad Slackers

Construct	**Ad Seekers**			**Ad Slackers**			**d-value**
	N	**Mean**	**St. Dev**	**N**	**Mean**	**St. Dev**	
Cognitive Attitude	32	9.08	1.498	27	6.43	2.629	1.01**
Intention to purchase	32	8.34	1.658	27	5.63	2.648	1.02**
Trust in product claims	32	8.47	1.814	27	6.82	3.081	0.54*

* indicates a moderate effect

** indicates a practically significant effect

As shown in Table 4.9, the upper and lower quartile scores for Q2 are 8.00 and 4.00 respectively. Based on these scores the respondent base was also divided into two groups; namely those who regularly pay attention to advertisements about EFPs (i.e. those who scored 8.00 and above on Q2) hence known as "Ad Seekers" and those who less regularly pay attention to advertisements about EFPs (i.e. those who scored 4.00 and below on Q2) hence known as "Ad Slackers". The mean purchase frequency, intention and trust in product claims scores for Ad Seekers and Ad Slackers were determined and are summarised in Table 4.11.

As shown in Table 4.11, the cognitive attitude, intention and trust in product claims scores for Ad Seekers are 9.08, 8.34 and 8.47 respectively and for Ad Slackers 6.43, 5.63 and 6.82 respectively. These scores were compared by means of Practical Significant Difference Testing. The d-values obtained shows two practical significant effect sizes (1.01 & 1.02) when comparing Ad Seekers and Ad Slackers in terms of their cognitive attitude and intention to purchase. There was also a moderate effect size (d = 0.54) found when comparing Ad Seekers and Ad Slackers in terms of their trust in product information.

Similarly, as shown in Table 4.9 the upper and lower quartile scores for Q3 are 10.00 and 6.00 respectively. Based on these scores the respondent base was also divided into two groups; namely those who trust that products labelled as eco-friendly are indeed better for the environment (i.e. those who scored 10.00 on Q3) hence known as "Believers" and those who do not as readily trust that products labelled as eco-friendly are indeed better for the environment (i.e. those who scored 6.00 and below on Q3) hence known as "Sceptics". The mean purchase intention scores for Believers and Sceptics were determined and are summarised in Table 4.12.

Table 4.12: Comparison between believers and sceptics

Construct	**Believers**			**Sceptics**			**d-value**
	N	**Mean**	**St. Dev**	**N**	**Mean**	**St. Dev**	
Intention to purchase	38	8.32	1.974	29	5.83	2.606	0.96**

** indicates a practically significant effect

As shown in Table 4.12, the intention scores for Believers is 8.32 and for Sceptics 5.83. These scores were compared by means of Practical Significant Difference Testing. The d-values obtained show a practical significant effect size (0.96) when comparing Believers and Sceptics in terms of their intention to purchase.

4.4 Price/quality beliefs and sensitivity

As shown in Table 4.13, the mean score for Q4 is 8.23, supporting the view that consumers believe eco-friendly products to be more expensive. Also, the results on Q5 shows a relatively high mean score (6.89) illustrating that consumers, on average, do believe that eco-friendly products are better in quality than regular products. Question 6 also shows a mean score of 5.93 (see Table 4.13). Although this is a relatively low score, it does illustrate that consumers will, on average, still buy an eco-friendly product even if it is somewhat more expensive than a regular product. Table 4.13 also

provides the mean score (3.09) for Q7. This low score illustrates that consumers are not as willing to buy an eco-friendly product if it is somewhat lower in quality than a regular product. Also, as shown in Table 4.13, the upper and lower quartile scores for Q6 are 8.00 and 5.00 respectively. Based on these scores the respondent base was divided into two groups; namely those who are highly price sensitive (i.e. those who scored 5.00 or below on Q6) and those who are less price sensitive (i.e. those who scored 8.00 or above on Q6).

Table 4.13: Price/Quality Beliefs & Sensitivity

Question	**N**	**Mean**	**Std. Dev.**	**Upper Quartile**	**Lower Quartile**
Q4: EFPs are more expensive	99	8.23	2.535	10.00	7.00
Q5: EFPs are higher in quality	100	6.89	2.788	9.00	5.00
Q6: Will purchase EFPs even if priced higher	100	5.93	2.992	8.00	5.00
Q7: Will purchase EFPs even if lower in quality	100	3.09	2.854	5.00	0.00

Table 4.14: Comparison between consumers based on price sensitivity

Construct	**Highly price sensitive**			**Less price sensitive**			**d-value**
	N	**Mean**	**St. Dev**	**N**	**Mean**	**St. Dev**	
Cognitive Attitude	40	7.12	2.207	35	9.12	1.538	0.91**
Intention to purchase	40	5.93	2.693	35	8.86	1.089	1.09**
Can easily afford EFPs	40	4.79	2.736	35	7.12	2.547	0.85**

** indicates a practically significant effect

The mean scores for cognitive attitude, intention to purchase EFPs and ability to afford EFPs of highly price-sensitive consumers are 7.12, 5.93 and 4.79 respectively whilst for less price-sensitive consumers it is 9.12, 8.86 and 7.12 respectively (see Table 4.14). These scores were compared by means of practically significant difference testing. The d-values obtained show practical significant effect sizes between these two groups on all three

constructs (0.91; 1.09 and 0.85).

It is also interesting to note that of the 30 respondents in the less price sensitive group (excluding those who did not divulge their income), 13 fall into the lowest income segment (see Table 4.15) and of the 40 respondents in the highly price sensitive group, 7 fall into the highest income segment (see Table 4.16).

Table 4.15: Income groups of less price-sensitive respondents

	Total	**0 -8000**	**8001 -20 000**	**≥ 20 001**	**Missing**
No of respondents	35	13	7	10	5

Table 4.16: Income groups of highly price-sensitive respondents

	Total	**0 -8000**	**8001 -20 000**	**≥ 20 001**	**Missing**
No of respondents	40	19	12	7	2

Table 4.17: Comparison between consumers based on quality sensitivity

Construct	**Highly quality sensitive**			**Less quality sensitive**			**d-value**
	N	**Mean**	**St. Dev**	**N**	**Mean**	**St. Dev**	
Cognitive Attitude	29	7.56	2.602	35	8.31	2.243	0.29
Intention to purchase	29	6.55	3.158	35	8.19	1.884	0.51*

* indicates a moderate effect.

Also, as shown in Table 4.13 the upper and lower quartile scores for Q7 are 5.00 and 0.00 respectively. Based on these scores the respondent base was divided into two groups; namely those who are highly quality sensitive (i.e. those who scored 0.00 on Q7) and those who are slightly less quality sensitive (i.e. those who scored 5.00 or above on Q7).

As shown in Table 4.17, the cognitive attitude and intention scores for highly quality-sensitive consumers are 7.56 and 6.55 respectively whilst for

less quality-sensitive consumers it is 8.31 and 8.09 respectively. These scores were compared by means of Practical Significant Difference Testing. The d-values obtained show one moderate effect sizes (d = 0.51) when comparing these groups in terms of purchase intention.

4.5 Demographic segmentation

In this section, the mean scores of different demographic groups on specific questions will be compared in order to determine whether each of these groups could be seen as distinct consumer segments. The demographic variables include gender, age and income.

4.5.1 Gender

The gender characteristics of the total sample are summarised in Table 4.18. This table shows the amount of respondents who are either male or female (as shown in the frequency or F column) as well as the percentage that these respondents make out of the total sample (which is shown in the Percentage or P column). The cumulative frequency and cumulative percentage numbers are also supplied in the CF and CP columns respectively. In Figure 4.2 the amount of men and women who make out the total sample is shown by means of a pie-chart.

Figure 4.2: Gender (%)

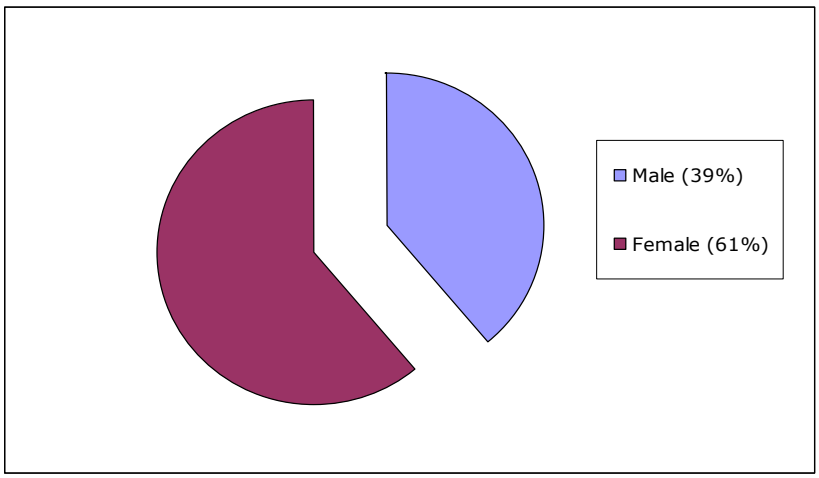


Table 4.18: Gender

Gender	F	P (%)	CF	CP (%)
Male	39	39.00	39	39
Female	61	61.00	100	100.00

As shown in Table 4.18 and Figure 4.2, of the 100 respondents 61% were women and 39% were men. A comparison between the mean scores of different constructs for men and women is summarised in Table 4.19.

Table 4.19: Comparison between males and females

Construct	Male		Female		d-value
	Mean	St. Dev	Mean	St. Dev	
Perceived Behavioural Control	6.38	2.056	5.64	2.269	0.33
Cognitive Attitude	7.71	1.987	8.38	2.262	0.30
Subjective Norms	6.28	2.433	5.25	2.940	0.35
Intention to purchase	6.51	2.761	7.97	2.025	0.53*
Trust in product labelling	6.85	2.824	8.10	2.413	0.44
Pay attention to advertisements	5.33	2.887	5.97	2.834	0.22
Price sensitivity	5.56	2.945	6.16	3.023	0.20
Indifference to quality	3.15	2.621	3.05	3.013	0.03
Importance of approval	4.67	3.644	4.02	3.575	0.18
Environmental concern	7.86	1.349	8.92	1.273	0.79*

* indicates a moderate effect.

As shown in Table 4.19, nearly all the d-values found when comparing men and women in terms of their mean scores produced practically insignificant d-values. There was, however, a moderate practical significant difference (d = 0.53) between men and women in terms of their intention to purchase EFPs. A moderate effect size (d = 0.79) was also found when comparing men and women based on their level of environmental concern.

4.5.2 Age

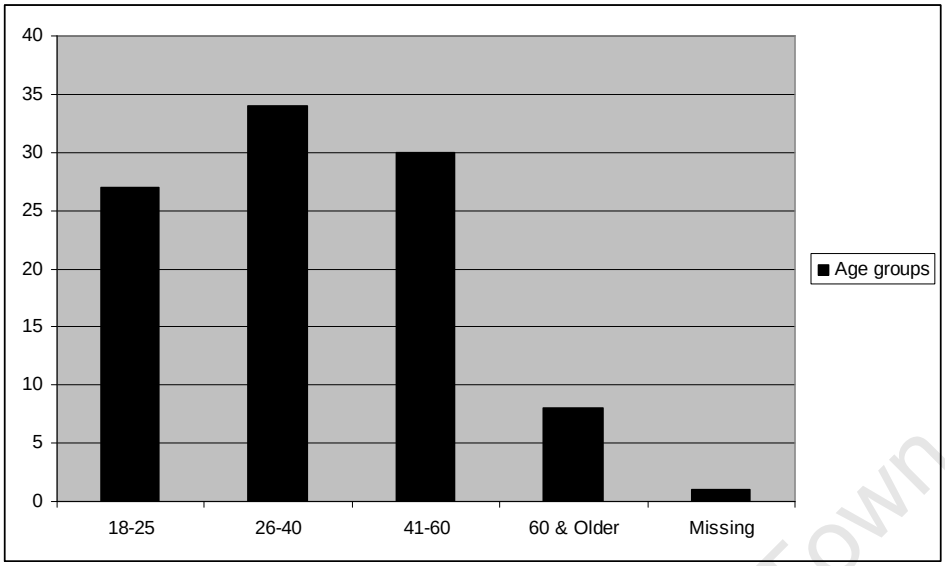
A respondent's age was determined by means of a multiple choice question format where different age groups were given as possible answers. These age groups are shown in Table 4.20 along with the number of respondents who fall into every age group (this is shown in the frequency or F column) as well as the percentage that these respondents make out of the total sample (which is shown in the percentage or P column). The cumulative frequency and cumulative percentage numbers are also supplied in the CF and CP columns respectively. In Figure 4.3 the number of respondents who fall into these different age groups are shown by means of a percentage of the total sample.

Table 4.20: Age Groups

Age	**F**	**P (%)**	**CF**	**CP (%)**
18-25 years	27	27.27	27	27.27
26-40 years	34	34.34	61	61.61
41-60 years	30	30.30	91	91.91
60 years and older	8	8.09	99	100.00

Frequency missing = 1

Figure 4.3: Age Groups (%)



As shown in Table 4.20 and Figure 4.3, 27 percent of the 99 respondents comprising the sample of the study are between the ages of 18-25 years; 34 percent between the ages of 26-40 years; and 30 percent between the ages of 41-60 years; and 8 percent being 60 years and older.

The mean scores for different constructs of each of the first three age groups were compared by means of Practical Significant Difference Tests, the results of which are summarized in Table 4.22. The oldest age group (60 years and older) were not included in these analyses due to its small size.

As shown in Table 4.22, most of the d-values found when comparing age groups in terms of different construct mean scores produced practically insignificant d-values. However, two moderate effect sizes (0.53 and 0.61) were found when comparing those aged 41-60 years (mean score = 6.79) with the two younger age groups (mean scores = 5.70 and 5.35) in terms of their PBC. Also, with regards to respondents' ability to afford EFPs, two moderate effect sizes (0.50 and 0.53) was found when comparing those aged 41-60 years with those aged 18-25 years and those aged 26-40 years respectively.

Interestingly, a comparison between those aged 18-25 years and those aged 41-60 shows that the younger age group (with a total of 25 respondents) only has 4 individuals earning above R8000 per month, whilst the older age group (with a total of 27 respondents) have 24 people earning above R8000 per month, 11 of which are earning above R20 000 per month (see Table 4.21).

Table 4.21: Comparison between age groups – Income of respondents

	Income: 18-25 years			**Income: 41-60 years**		
	0 - 8 000	**8 001 - 20 000**	**≥ 20 001**	**0 - 8 000**	**8 001 - 20 000**	**≥ 20 001**
N of respondents	22	3	1	3	13	11

Table 4.22: Comparison between age groups

Construct	**Age group**	**Mean**	**St. Dev**	**d-value**		
				18-25	**25-40**	**41-60**
Perceived Behavioural Control	**18-25**	5.70	1.981	-	0.15	0.53*
	25-40	5.35	2.358	0.15	-	0.61*
	41-60	6.79	2.044	0.53*	0.61*	-
Ability to afford EFPs	**18-25**	5.58	1.880	-	0.04	0.50*
	25-40	5.47	2.873	0.04	-	0.53*
	41-60	7.04	2.950	0.50*	0.53*	-
Cognitive Attitude	**18-25**	7.74	2.578	-	0.21	0.36
	25-40	8.28	1.694	0.21	-	0.17
	41-60	8.66	2.236	0.36	0.17	-
Subjective Norms	**18-25**	5.35	2.680	-	0.17	0.20
	25-40	5.82	2.762	0.17	-	0.04
	41-60	5.92	2.878	0.20	0.04	-
Intention to purchase	**18-25**	7.15	2.125	-	0.25	0.32
	25-40	7.68	1.996	0.25	-	0.05
	41-60	7.83	2.854	0.32	0.05	-
Pay attention to advertisements	**18-25**	5.19	2.909	-	0.28	0.14
	25-40	6.03	2.959	0.28	-	0.15
	41-60	5.60	2.848	0.14	0.15	-
Trust in product labelling	**18-25**	7.15	2.944	-	0.20	0.37
	25-40	7.74	2.502	0.20	-	0.20
	41-60	8.23	1.775	0.37	0.20	-

Construct	Age group	Mean	St. Dev	d-value		
				18-25	25-40	41-60
Indifference to Price	**18-25**	5.56	2.750	-	0.29	0.20
	25-40	6.35	2.973	0.29	-	0.05
	41-60	6.20	3.123	0.20	0.05	-
Indifference to Quality	**18-25**	2.78	2.833	-	0.40	0.03
	25-40	3.94	2.923	0.40	-	0.42
	41-60	2.70	2.891	0.03	0.42	-
Importance of Approval	**18-25**	6.15	3.382	-	0.65*	0.92**
	25-40	3.91	3.441	0.65*	-	0.26
	41-60	3.03	3.222	0.92**	0.26	-
Environmental Concern	**18-25**	8.51	1.247	-	0.09	0.08
	25-40	8.38	1.417	0.09	-	0.16
	41-60	8.63	1.538	0.08	0.16	-

* indicates a moderate effect.
** indicating a practically significant effect.

It is also interesting to note that when comparing different age groups in terms of their price sensitivity there was no practically significant d-values found (see Table 4.22). However, with regards to the importance placed on social approval, one moderate effect size (d = 0.65) was found when a comparison was made between those aged 26-40 years (mean score = 3.91) with those aged 18-25 years (mean = 6.15). A practically significant effect size (d = 0.92) was also found when comparing those aged 41-60 (means score = 3.03) with those aged 18-25.

4.5.3 Income

The income of each respondent was determined by means of a multiple choice question format. The different income segments are listed in Table 4.23 along with the number of respondents who earn an income equivalent to each segment (which is shown in the Frequency or F column) as well as the percentage that these respondents make out of the total sample (which is shown in the Percentage or P column). The cumulative frequency and cumulative percentage numbers are also supplied in the CF and CP columns

respectively. In Figure 4.4 the different income groups are shown in terms of their representation of the total sample by means of a percentage.

Figure 4.4: Income Groups (%)

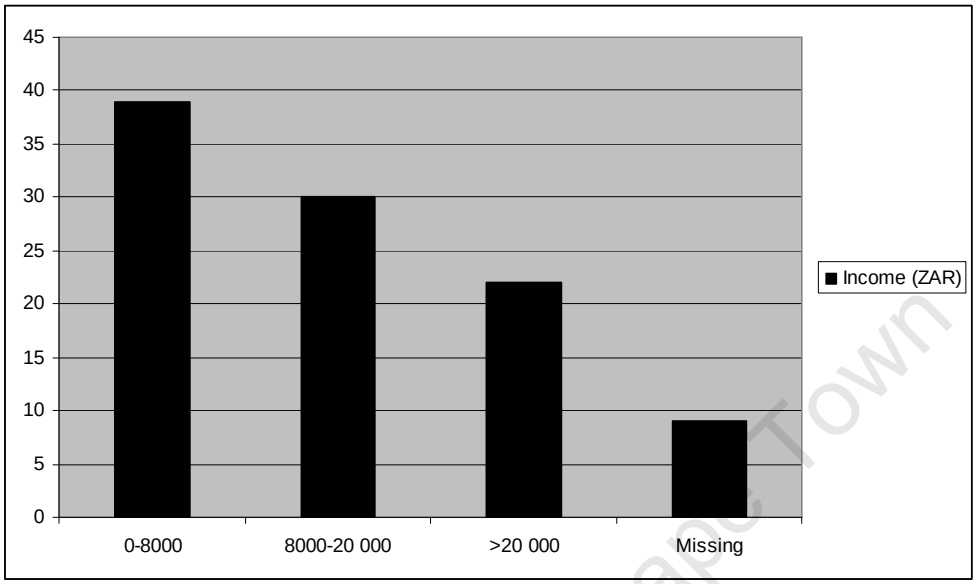


Table 4.23: Income

Income (ZAR)	**F**	**P (%)**	**CF**	**CP (%)**
0 – 8000	39	42.86	39	42.86
8001 – 20 000	30	32.97	69	75.83
20 001 and more	22	24.17	91	100.00

Frequency missing = 9

As shown in Table 4.23 and Figure 4.4, the largest segment of the population (39 respondents = 43 percent) earn R8 000 or less per month (hence referred to as the lower income segment). Those individuals earning between R8 001 and R20 000 were comprised of 30 respondents (33 percent of the population) and will be referred to as middle income segment. Lastly, those earning R20 001 and more were comprised of 22 respondents (24 percent of the population; hence referred to as the higher income segment). The mean scores for different constructs of each of the above mentioned income groups were compared by means of Practical

Significant Difference Tests, the results of which is summarized in Table 4.24.

As shown in Table 4.24, most of the d-values found when comparing age groups in terms of different construct mean scores produced practically insignificant d-values. However, when comparing the high income segment with the lower income segment and middle income segment in terms of their PBC two practical significant differences were found (d value = 0.95 and 0.80 respectively). Also, when comparing the high income segment with the lower and middle income segment in terms of their ability to afford EFPs two practical significant differences were found (d value = 1.43 and 1.22 respectively). It is interesting to note that there was no practical significant difference found between the different income groups in terms of their price sensitivity.

Table 4.24: Comparison between income groups

Construct	**Income Group**	**Mean**	**St. Dev**	**d-value**		
				Low	**Middle**	**High**
Perceived Behavioural Control	**Low**	5.32	2.134	-	0.19	0.95**
	Middle	5.72	2.055	0.19	-	0.80**
	High	7.35	1.985	0.95**	0.80**	-
Ability to afford EFPs	**Low**	5.03	2.433	-	0.11	1.43**
	Middle	5.31	2.620	0.11	-	1.22**
	High	8.50	2.018	1.43**	1.22**	-
Accessibility of EFPs	**Low**	5.18	2.883	-	0.11	0.09
	Middle	4.86	2.371	0.11	-	0.19
	High	5.48	3.234	0.09	0.19	-
Cognitive Attitude	**Low**	8.06	1.822	-	0.27	0.25
	Middle	7.57	1.767	0.27	-	0.49
	High	8.56	2.033	0.25	0.49	-
Subjective Norms	**Low**	5.38	2.617	-	0.12	0.16
	Middle	5.71	2.847	0.12	-	0.06
	High	5.90	3.203	0.16	0.06	-
Intention to purchase	**Low**	7.13	2.285	-	0.00	0.14
	Middle	7.13	2.300	0.00	-	0.14
	High	7.55	3.035	0.14	0.14	-

Construct	Income Group	Mean	St. Dev	d-value		
				Low	Middle	High
Indifference to Price	**Low**	5.69	3.088	-	0.07	0.23
	Middle	5.47	2.956	0.07	-	0.30
	High	6.41	3.172	0.23	0.30	-
Indifference to Quality	**Low**	2.33	2.639	-	0.27	0.49
	Middle	3.10	2.905	0.27	-	0.23
	High	3.77	2.910	0.49	0.23	-
Environmental Concern	**Low**	8.56	1.283	-	0.14	0.01
	Middle	8.34	1.593	0.14	-	0.13
	High	8.54	1.499	0.01	0.13	-

Low = ZAR 0-8000; Middle = ZAR 8001-20 000; High = ZAR ≥ 20 001

* indicates a moderate effect.
** indicating a practically significant effect.

CHAPTER 5: DISCUSSION

In this chapter, a discussion based on the empirical results is provided under six sub-sections, similar to the framework provided in Chapter 4.

5.1 Discussion on environmental concern

As stated in Chapter 4, all the respondents who participated in the study scored above 5 for the NEP scale. This shows that all respondents can be classified as environmentalists. The reason for the high scores on environmental concern could be explained by the fact that the NEP scale used to measure the construct creates a possible "halo-effect" forcing respondents to provide "socially-acceptable" answers to each of the questions. This may have been aggravated by the fact that the questionnaire was interview-administered. Nonetheless, with such exceptionally high scores provided on each of the items in the NEP scale, the results do show that consumers, on average, are concerned about environmental problems.

Although high scores were obtained on environmental concern for most respondents, it is still possible to identify two groups within the population; those that can be classified as moderate environmentalists or "Moderates" and those that can be classified as committed environmentalists or "Devotees". From the data, it appears that Devotees have more positive attitudes towards the purchase of EFPs and also have a greater intention to purchase EFPs in future. With regards to comparing label information, it would appear that devotees, although providing a higher score, do not differ considerably from moderates. It does appear, however, that devotees are more likely to pay attention to advertisements about EFPs. Another interesting finding is that there is no difference in price sensitivity between Moderates and Devotees.

5.2 Discussion on TPB Constructs

This section will discuss the mean scores of the TPB constructs namely, PBC, subjective norms, cognitive attitudes and intention.

The score obtained for the PBC construct was relatively low (5.93) which implies that consumers only have a moderate level of control over the purchase of EFPs. As stated in Chapter 4, the item measuring whether EFPs are easily accessible is shown to have a slightly lower mean score (5.15) than the mean scores for the other two items. One of the other items, which measure the consumer's ability to afford EFPs, also has a relatively low score of 6. This indicates that affordability and accessibility are key areas for improvement, should retailers and manufacturers wish to increase consumers' level of control over EFP purchases.

Also, as shown in Chapter 4, the average mean score for subjective norms is relatively low (5.66). One item specifically measures a descriptive norm, i.e. whether important others themselves do or do not perform the behaviour in question (in this case, the purchase of EFPs). The relatively low mean score (5.07) for this item shows that consumers do not think important others themselves regularly purchase EFPs. It is also interesting to note that the "importance of social approval construct", measured by Q14, showed a mean score of 4.27. This indicates that subjective norms may not be a particularly important factor in purchase decisions, as consumers may not be greatly influenced by normative pressures.

Consumers' attitudes towards the purchase of EFPs are also very positive. This corresponds with the literature on environmentally friendly behaviours, as most respondents in previous surveys show positive attitudes towards these activities (Grankvist & Biel 2007; De Groot & Steg, 2007; Bamberg, 2003). The purchase of EFPs, it seems, may also be included as one such activity.

With regards to consumers' intention to purchase EFPs the results show a high score of 7.40, indicating that consumers do, on average, intend to purchase EFPs in future. Whether this intention would lead to the purchase of EFPs is uncertain, as this study did not investigate the actual purchase behaviour of respondents.

5.3 Discussion on the TPB modelled with environmental concern

This study examined the relationships between cognitive attitudes, subjective norms, PBC and intention to purchase EFPs. The results reveal that a positive attitude, a positive subjective norm, and high PBC are related to stronger intentions to purchase these products. The results are in agreement with Ajzen's (1991) Theory of Planned Behaviour. However, cognitive attitudes (with a Beta value of .58, $p < 0.001$) appears to a strong predictor of intention while subjective norms ($\beta = .15$, $p < 0.001$) and PBC ($\beta = .13$, $p < 0.001$) appear to be low predictors. Nevertheless, the results support the hypothesis that the TPB model is valid within an environmentally friendly purchase decision framework.

As stated by Ajzen (1991) the influence of each of the three antecedents of the TPB are expected to vary across different behaviours and situations. This is illustrated when comparing the results found in this study with the results of De Groot & Steg's (2007) study on environmentally-responsible behaviour, specifically examining the role of the TPB in explaining why two groups of commuters, employees and shoppers, would make use of a transferium when travelling to the city centre of Groningen (thus reducing their carbon footprint).

The results of De Groot & Steg's (2007) study showed that, for both shoppers and employees, the more positive the attitudes toward the transferium, the stronger the subjective norms, and the higher the PBC the more they intended to use the transferium. For both these groups attitudes

were the most strongly related to intention. For shoppers this was followed by subjective norms and PBC, whereas for employees it was followed first by PBC and then subjective norms. Another study, that conducted by Bamberg (2003), found that in the case of students' decision to request information on green electricity products, attitudes also has the strongest effect on intention, followed by subjective norms and PBC.

The above results, together with the results of this study, leads one to assume that positive attitudes towards environmentally responsible behaviours is a stronger contributor to the intention to perform such behaviours than subjective norms and PBC.

Similar to this study, De Groot & Steg (2007) also extended the TPB by including environmental concern in the model; specifically examining the influence of environmental concern on attitudes to perform an environmentally responsible behaviour (i.e. the use of a transferium). De Groot & Steg (2007) found that environmental concern explained 26% of the variance in attitudes of shoppers and 13% of the variance in attitudes of employees. Also, the more people were concerned about the consequences of environmental problems for themselves, the more positive were their attitudes toward the transferium (shoppers: $\beta = .46$, $p < .01$; employees: $\beta = .34$, $p < .05$). As shown in Chapter 4, this study also found a positive relationship between environmental concern and cognitive attitudes. This construct explained 12% of the variance in attitudes of respondents and with a beta value of .35 ($p < 0.001$) one could deduce that the more people are concerned about environmental problems, the more positive are their attitudes towards the purchase of EFPs, therefore validating the hypothesis made in Chapter 1.

5.4 Discussion on information search & trust in product labelling

From the data it appears that consumers do not frequently compare label information between different products but they do, on average, trust that

those products labelled as eco-friendly are indeed better for the environment.

When comparing those individuals who regularly compare label information (Label Seekers) with those who do not compare label information as frequently (Label Slackers) the data show that Label Seekers have a greater intention of purchasing these products in future. However, both Label Seekers and Label Slackers show an almost equal amount of trust on EFP product information. It appears, therefore, that Label Slackers do not compare label information, not because of a lack of trust in the information provided, but for other reasons. These reasons could, for instance, include a lack of interest in EFPs or the presence of "frozen" purchase behaviours (i.e. consumers following past purchase decisions without considering alternative product choices).

Similarly when comparing those individuals who regularly pay attention to advertisements about EFPs (Ad Seekers) with those who do not pay attention to these advertisements as frequently (Ad Slackers), the data reveals that Ad Seekers have more positive attitudes towards EFPs and a greater intention of purchasing these products in future. Ad Seekers also have a somewhat higher level of trust in product information than Ad Slackers. An assumption could therefore be made that Ad Slackers do not wish to pay as much attention to advertisements about EFPs as many do not readily trust the claims made in these advertisements in the first place.

Interestingly, it was found that those respondents who easily trust product information on EFPs (Believers) show a greater purchase intention than those respondents who are not as trusting of EFP product information (Sceptics). Therefore, taking the above into consideration, as well as the fact that Label/Ad Slackers and Seekers showed differences in purchase intention scores, it appears that label information and advertisements about EFPs may be important contributors to EFP purchase decisions.

5.5 Discussion on price/quality beliefs and sensitivity

By examining the response on those questions measuring respondents' beliefs about the price and quality of EFPs, it becomes evident that consumers believe these products to be more expensive but also better in quality than regular products.

When asked whether they will purchase EFPs even if the price is somewhat higher than a regular product respondents gave a score of 5.93, which is relatively low. Nevertheless, with a mean score above 5, one could still assume that consumers will, on average, purchase EFPs if priced relatively higher. With a score of 3.09 on question 7 it is also evident that consumers are not as willing to buy an eco-friendly product if it is somewhat lower in quality than a regular product. Consumers are therefore more quality sensitive than they are price sensitive. This is in line with the research done by D'Souza et al (2007) who found that consumers are less likely to compromise on product quality than on somewhat higher prices of EFPs.

When dividing the respondent base into highly price-sensitive and less price-sensitive groups and comparing their intention scores the data reveals that less price-sensitive consumers have more positive attitudes towards the purchase of EFPs and show a greater intention to purchase these products in future. When comparing their scores on question 9 (asking respondents to scale their ability to afford EFPs), it was found that the less price-sensitive group are better able to afford these products. It should be noted that this is a score based on consumers' beliefs. Whether they are actually able to afford these products are uncertain. Interestingly, 43% of the respondents in the less price sensitive group (excluding those who were not willing to divulge their income) fell into the lowest income segment. It would appear, therefore, that a large number of those respondents who profess they are able to afford EFPs may not able to do so in practice.

When comparing more quality sensitive with less quality sensitive respondents, those with higher sensitivity in this regard also show a slightly greater intention to purchase these products in future. Therefore, taking the above into consideration, it would appear that those who are less price and quality sensitive are more inclined to purchase EFPs.

5.6 Discussion on demographic segmentation

In this sub-section, the results obtained from comparing different demographic segments will be discussed in greater detail. The demographic variables include gender, age and income.

Firstly, with regards to gender, it appears that women have a slightly greater intention to purchase EFPs than men. Furthermore, although both men and women showed high scores on the NEP scale, women tend to be slightly more concerned about the environment than men.

Also, with regards to age groups, it appears that those aged 41-60 years have a slightly greater PBC than the younger age groups (those aged 18-25 and 26-40). Also, as two moderate effect sizes was found when comparing those aged 41-60 years with the two younger age groups in terms of their ability to afford EFPs, it appears that price may be a factor driving the younger age groups' low PBC scores.

This assumption is strengthened by the fact that only 16% of the individuals in the youngest age group (18-25) are earning above R8000 per month whilst 88% of the individuals in the oldest age group (41-60) are earning above R8000 per month, 46% of whom are earning above R20 000 per month. Those aged 41-60 are therefore better able to afford EFPs. It is interesting to note that all the d-values found when comparing different age groups in terms of their price sensitivity scores produced practically insignificant d-values. This shows that those between the ages of 41-60 are

just as price sensitive as younger age groups, even though they could better afford EFPs. Another interesting finding is that the youngest age group places greater value on social approval than older age groups. Especially the oldest age group, with a score of 3.03, seems to be less concerned about social approval than others.

Lastly, with regards to income, the results show that those individuals earning R20 000 and more have a greater measure of control over performing the behaviour in question (i.e. the purchase of EFPs) than those in the lower income segments. Again, affordability of EFPs seems to be the driving factor for this observation as it is not surprising to find that the higher income segments have a greater ability to afford EFPs than the lower income segments. Interestingly, there was no practical significant difference found between the different income groups in terms of their price sensitivity. It would appear, therefore, that respondents falling within the different income groups are all, to some extent, equally price sensitive.

It would thus appear that the stereotype of the green consumer, identified by Gilg et al (2005), as being young, female and wealthy is not entirely correct. Although women appear to have a greater level of environmental concern and only slightly more inclined towards purchasing EFPs it doesn't appear that younger and wealthier individuals have a greater purchase intention than other age and income groups.

CHAPTER 6: SUMMARY AND RECOMMENDATIONS

In this chapter the study will be summarized and the recommendations, based on the results and discussion, will be provided for marketers and policy makers together with the limitations of the study and recommendations for future research.

6.1 Summary

This study aimed to test the validity of the TPB model within an environmentally responsible purchase decision framework; examine the role that consumers' search for information on EFPs may play on their purchase intention; investigate consumer price and quality sensitivity regarding the purchase of these products; and divide the respondent base by means of demographic segmentation and thus determine whether TPB scores and purchase intention differs between demographic segments. This was done by means of a literature review and an empirical investigation.

The literature review consisted of a discussion on the TPB, examining each of its three constructs together with criticisms of the theory. The emergence and role of environmental concern on purchase behaviour was then examined followed with a discussion on market segmentation.

The empirical investigation was undertaken by means of a survey. Convenience sampling was used to study the target population, consisting of customers of the South African retail company, Woolworths – specifically within the Cape Town Metropole. These customers, who varied between different demographic profiles, were asked to complete a questionnaire which aimed to measure their price/quality sensitivity on EFPs and their dedication to search for information on these products. Their response to questions related to the TPB was also measured, along with their level of environmental concern.

The data obtained from this questionnaire was analyzed using SPSS software and the results of this analysis are shown in Chapter 4. The findings obtained from the analysis were then discussed in Chapter 5. Based on these findings it was found that the TPB is valid within an environmentally responsible purchase decision framework and that environmental concern does influence consumer attitudes towards the purchase of EFPs.

It also appears that consumers' search for information and trust in product labelling affect their intention to purchase these products. With regards to price and quality sensitivity the results show that both these constructs affect consumers' attitudes towards and intention to purchase EFPs. Demographic segmentation in terms of gender shows that women are more environmentally concerned than men and also have a greater intention to purchase EFPs in future. There is no difference between age groups in terms of their attitudes and intention to purchase EFPs but those aged 41-60 have greater volitional control over the purchase of these products as they are better able to afford them. Similarly, there are no difference in attitudes and intention between income groups but the highest income group do have greater volitional control over the purchase of EFPs.

6.2 Recommendations

The recommendations are presented under six sub-sections, similar to the framework provided in Chapter 4 and 5.

6.2.1 Recommendations on environmental concern

As was explained in the discussion section, it was possible to divide the respondent base into moderate environmentalist and devoted environmentalist groups, with "devotees" showing more positive attitudes towards EFPs and a greater intention to purchase these products in future. On its own, this could be seen as an important finding as it would be useful

for marketers to identify devoted environmentalists as a target market for EFPs. This could be especially beneficial as the results of this study show that devoted environmentalists are more inclined to pay attention to advertisements about EFPs, making them a suitable audience for advertising campaigns. However, as will be discussed in section 6.2.3, environmental concern should not be used as the only base to segment the EFP market.

According to Gilg et al (2005) another benefit of targeting committed environmentalists is the notion that they are more likely to purchase EFPs based on their environmental credentials, with price being less of a factor in the purchase decision. Although this is a reasonable assumption, the results of this study did show that there is not a marked difference in price sensitivity between moderate and devoted environmentalists. Therefore, targeting "devotees" with premium priced products may not be a successful strategy. A more successful strategy would be to increase their already high levels of environmental concern and then provide them with the means to act on this concern, i.e. providing them with a selection of affordable EFPs.

6.2.2 Recommendations on TPB Constructs

The results of this study show that consumers have very positive attitudes with regards to the behaviour in question (i.e. the purchase of EFPs) which according to TPB is a necessary precursor for intention towards performing a behaviour. The fact that consumers have such positive attitudes towards purchasing EFPs is, of course, good news for marketers of these products.

However, it is important for manufacturers and retailers to make certain that consumers can follow up on these attitudes by ensuring they have a greater level of control over the behaviour in question. According to the results consumers do not in fact have a high level of volitional control over the purchase of EFPs. It seems that low accessibility and affordability are the major causes for these low scores.

Furthermore, respondents did not give high scores with regards to those items measuring subjective norms. Marketers of EFPs may therefore wish to increase the level of normative pressure that is currently exerted on consumers. This could be done by using social influence strategies such as celebrity endorsement of EFPs.

This study also suggest that consumers do not perceive the purchase of EFPs to be a very popular activity amongst important others. Nonetheless, consumers could still be persuaded that the purchase of EFPs is a popular activity amongst a select group of shoppers. Marketers should portray this group in a positive light, denoting them as valued members of society who uphold high moral standings. Marketers should also accentuate a feeling of "belonging" amongst these shoppers by referring to them as a group who share similar ideals and environmental values. It should then be communicated to other shoppers that by joining this group, they themselves could form part of a new social movement with the aim of reducing environmental problems. To support this campaign, a social club can be initiated by retailers where networking between shoppers is supported. This will create further awareness amongst consumers about new products that have become available and will support the selling of these products by means of word-of-mouth marketing. The retailer could also become directly involved and use the club to disseminate information about new products.

6.2.3 Recommendations on the TPB modelled with EC

The results show that the TPB is a valid model within an environmentally conscious purchase decision framework. The TPB could thus be seen as a helpful tool for marketers to understand consumers' purchase decisions with regards to EFPs. As was discussed earlier, it appears that Attitudes play a greater role in purchase decisions than subjective norms and PBC. Ways to address this imbalance have already been discussed.

The approach of this study and the study of De Groot & Steg (2007) - that is, the integration of environmental concern within a TPB framework - can provide important insights to policymakers in motivations that underlie intention to purchase EFPs. According to Follows & Jobber (2000), previous research has shown a weak direct relationship between environmental concern and environmentally responsible behaviour. According to Bamberg (2003) this weak relationship is due to an inadequate understanding of how general attitudes influence specific behaviours.

Bamberg (2003) explains that a general determinant such as environmental concern is an important indirect determinant of specific behaviours as it impacts on the 'definition of the situation' - that is how to frame the decisional problem as well as determine the relevant behavioural alternatives and the personally salient consequences associated with these alternatives. Environmental concern could therefore be viewed as an important predictor of consumers' attitudes towards the purchase of EFPs. The results of this study have validated this hypothesis, establishing that environmental concern could thus be viewed as an important indirect determinant for consumers' intention to purchase EFPs.

As environmental concern alone is not a direct determinant of purchase behaviour marketers of EFPs should move away from a segmentation strategy where target markets for EFPs are identified solely on high levels of environmental concern. Rather, these levels should be increased further and, concurrently, a new line of affordable EFPs should be produced that meet consumers personal requirements.

6.2.4 Recommendations on information search & consumer trust in product labelling

From the data, it appears that, on average, consumers do not readily distinguish between EFPs and regular products based on their label

information. This is a problem that needs to be addressed as the results found that those who regularly compare the labels of different products are more inclined to purchase EFPs. Consumers should therefore be educated on how to distinguish between EFPs and regular products by means of their label information. It is important, however, to first educate the consumer on the differences between these products specifically with regards to their impact on the environment.

According to Follows & Jobber (2000) communications to the consumer must first explain the positive environmental consequences of EFPs and the negative consequences of the non-responsible product alternative. Follows & Jobber (2000) also stated that it is important that these communications focus on the product specific consequences, not generalised environmental consequences. For example, a company selling a specific type of organic food should not discuss the general problem of water nitrification and the effect of artificial fertilisers on groundwater resources in detail, but rather focus on addressing the specific hazards associated with the production processes of competitive food brands.

Therefore, rather than providing factual information about agricultural pollution, the consumer should be informed about specific product alternatives and the impacts of their production processes on the environment. According to Kaiser & Scheutle (1999) the consumer should then be made aware of the role they play and what impact their product choice has on alleviating environmental problems. In other words, consumers should be made aware that they are, in effect, condoning the destructive agricultural practices of certain brands of food by purchasing these products and that by rather selecting an EFP, they can prevent the environmental problems caused by these practices.

The ease of distinguishing between EFPs and regular products should also be improved by means of identifiable symbols or logos. These logos could,

for instance, illustrate that a specific food product has made use of natural fertilisers in its agricultural production rather than artificial fertilizers. By explaining what these symbols represent beforehand, consumers are then able to identify an EFP from a regular product, knowing what the environmental benefits of the EFP are, without having to read through an extensive amount of information on the product label itself.

Also, in communicating the differences between these products it is important that the claims made about EFPs should be substantiated. According to Brown & Wahlers (1998) marketers should take extreme care in validating their claims concerning a product's environmental performance as green consumers are often cynical about the environmental claims made by companies. Although the findings of this study show that, on average, consumers are more trusting of label information provided on EFPs, there must still be no doubt in the consumer's mind that an EFP has indeed been produced in an environmentally friendly manner.

One possible way of attaining this is to set up watchdog groups aimed at "policing" marketers who make false environmental claims. According to Wright (2008) there are already such groups established in the United States, Norway and Belgium. These groups are set up by the advertising industry and run by a third party. They operate on an honour system as marketers and ad agencies agree to abide by the rulings of the third party, which often mean dropping ads that are deemed deceptive. If the marketers later fail to do so, they run the risk of bad publicity or, in some cases, litigation.

In line with the above, similar watchdog groups should also be set up within specific industries, such as food production, that monitor the environmental claims made by companies within that sector. This should ensure that manufacturers are held accountable when providing false information to the consumer.

6.2.5 Recommendations on price/quality beliefs and sensitivity

Seeing that consumers will not readily buy an EFP if it is somewhat more expensive than a regular product and even less likely to purchase such a product if it does not meet the same quality standards, companies should make sure that they develop products that are not only friendly towards the environment but also satisfy a consumer's personal requirements. It is therefore important for manufacturers to undertake research studies aimed at understanding the potential negative individual consequences associated with the purchase of EFPs. Based on the findings of these studies, programmes should then be put in place in which EFPs are modified to reduce these negative consequences.

Arguably, one of the most important negative factors to avoid is a large price gap between EFPs and conventional products. This is not an easy task as managing the balance between affordability and quality is usually difficult. With this in mind, D'Souza et al (2007) provided two possible strategies for manufacturers of EFPs: Firstly, to produce higher quality EFPs and use a premium pricing strategy commensurate with the higher costs of production or secondly, compete in the marketplace offering comparable product quality standards at the competitive price categories in the market.

It could be argued that most retailers and manufacturers of EFPs have opted for the first strategy. This is also evident in the results of this study, which found that consumers believe EFPs to be more expensive but also better in quality than regular products. According to D'Souza et al (2007), one of the reasons for the slow development of EFPs are partly due to marketing strategies where certain EFPs are priced much higher than regular products, even though production costs are only marginally higher. The researcher argues that in order to fasten the development and distribution of EFPs, retailers and manufacturers should move away from a niche marketing approach, where small and wealthy pockets of consumers

are chosen as target markets and move towards the large scale distribution and selling of these products.

Affordability is a key determinant for the effectiveness of such a strategy. Manufacturers should therefore produce a product line of affordable EFPs, which as suggested by D'Souza et al (2007), may require investment in refining production processes and employing technology more effectively to create lower cost-based production processes. A key focus should also be a sustained drive in the research and development of new technologies that reduce the cost of production. If input costs of EFPs remain as high, their future success as viable alternatives will remain in question.

6.2.6 Recommendations on demographic segmentation

It is interesting to note that women are slightly more environmentally concerned than men and that they are also slightly more inclined to purchase EFPs in future. This is supported by Gilg et al (2005) and Robinson & Smith (2002) who found that males are less environmentally active and that women are more inclined to purchase EFPs than men. This information may be useful to marketers of EFPs as it is, of course, easy to identify this market segment. By placing advertisements in specific media outlets targeted at women, marketers of EFPs can provide messages specifically aimed at a female audience.

According to the results of this study, there appears to be no difference between age groups in terms of their environmental concern or purchase intention. Other studies have shown that people in older age groups have a greater level of environmental concern and are more inclined towards performing environmental behaviours than people in younger age groups (D'Souza et al, 2007; Robinson & Smith, 2002). However, there are still debates on whether age actually affects a person's level of environmental concern and their intention to perform these behaviours (Gilg et al, 2005) Nevertheless, this study suggests that those in the age group of 41-60 have

a greater measure of control over the purchase of EFPs. This is mainly due to the fact that people in this age group are better able to afford these products. One could thus assume that this characteristic will make them suitable as a target market for premium priced products.

However, it should be noted that the members of this group are just as price sensitive as those in other age groups – with the conclusion that they may not be more accepting of highly priced EFPs. It is also evident that this group is not as concerned about social approval as younger age groups. Therefore, social influence strategies aimed at increasing the level of normative pressure currently exerted on this group may not be an effective way of increasing their purchase intention, as subjective norms will not play an important role in their decision making. As the results show, these strategies will be more effective for those aged 18-25 as they are more concerned about social approval.

Lastly, when examining the differences between income groups, the findings support the assumption that wealthier individuals have a greater level of control over the proposed behaviour with the ability to afford EFPs playing a major role in this regard. Not surprisingly, the results show that those in the highest income segment (earning more than R20 000 per month) have significantly higher PBC scores.

Nevertheless, similar to people in different age groups, there are no differences in price sensitivity between income segments. This brings into question the effectiveness of the premium pricing strategy currently employed by many manufacturers of EFPs as it seems that people with higher incomes, even though they are better able to afford EFPs, are not more willing to purchase these products if priced higher than regular products.

In conclusion, it was found that price could play a significant role in

consumer decision making as significant d-values were found when comparisons were made between income groups as well as between age groups (respondents in the oldest age groups show to have the highest monthly income). The application of demographic variables was thus useful in that it helped unpack environmental concern and TPB constructs. Specifically with regards to PBC, the use of the income variable provided a better understanding of the role of price in consumers' perceived ability to purchase EFPs. However, apart from the above, the resultant d-values for comparisons between gender, age and income groups were not as significant to provide enough support for the initial development of an EFP consumer profile. The researcher therefore suggests that a more comprehensive study of demographic segmentation is not required for the South African EFP market.

6.3 Conclusion

According to Follows & Jobber (2000) the growing number of consumers demanding more sustainable forms of production and the need to remain competitive has prompted many manufacturers and retailers to seek information concerning environmentally responsible purchase behaviour. Traditionally, the challenge lied in how to identify those consumers who held positive environmental beliefs in order to target them (D'Souza et al, 2007). Such a simplistic approach is no longer an effective way of identifying suitable target markets for EFPs.

Environmental concern should not be seen as a direct antecedent of behaviour but rather as a good predictor of attitudes towards the purchase of EFPs. Environmental concern could therefore play an important indirect role in consumer's intention to purchase these products. With this in mind, the emphasis should be on increasing already high levels of environmental concern and provide consumers with an line of EFPs that also meet their personal requirements. Therefore, instead of targeting higher income

segments with a premium range of products, emphasis should be placed on developing a new line of affordable EFPs aimed at a variety of different market segments, each with individual needs and pricing requirements. The challenge then lies in persuading each of these segments to support these products and so give rise to the next generation of green consumers.

6.4 Limitations and recommendations for future research

A limitation of the present study is that actual purchase behaviour was not taken into account. As was previously discussed many reported studies on the TPB lack objective measures of real behaviour to prove that behavioural intentions mediate the impact of the antecedents under study. Also, this study was restricted to the investigation of EFPs in general. The intention to purchase specific types of EFPs was not measured. Recommendations for future research are therefore that the TPB model, within this context, be extended to include actual purchase behaviour and that the applicability of the model be tested for purchase behaviour regarding specific types of EFPs.

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APPENDIX A: QUESTIONNAIRE

Hi, my name is..... Would you like to earn a R20 Woolworths gift voucher?

All you need to do is answer a questionnaire. It won't take more than 7 minutes to complete. The study is undertaken by the University of Cape Town, in conjunction with Woolworths. Also, we wont be taking your name so we can guarantee your anonymity.

To begin with, on a scale of scale of 0 to 10 where 0 is never and 10 is almost always, how often do you do the following.

INFORMATION SEARCH	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**NA**
1. Compare the labels of two similar products to see which one is more environmentally friendly?												
2. Pay attention to advertisements about eco-friendly products?												

On a scale of scale of 0 to 10 where 0 is do not agree at all and 10 is fully agree, how much do you agree with the following statements.

TRUST IN PRODUCT CLAIMS	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**NA**
3. I trust that those products which are labelled as eco-friendly are indeed better for the environment.												

PRICE & QUALITY BELIEFS	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**NA**
4. I believe that the price of eco-friendly products is usually more expensive than regular products.												
5. I believe that the quality of eco-friendly products is better than regular products.												

PRICE & QUALITY SENSITIVITY	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**NA**
6. I will purchase an eco-friendly product even if it is somewhat more expensive than regular products.												
7. I will purchase an eco-friendly product even if it is somewhat lower in quality than regular products.												

PERCEIVED BEHAVIOURAL CONTR	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**NA**
8. I think eco-friendly products are easily accessible.												
9. I can easily afford eco-friendly products.												
10. I wanted to, I could easily buy eco-friendly products.												

SUBJECTIVE NORMS	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**NA**
11. People whose opinion I value would think that I should rather buy eco-friendly products than regular products.												
12. People who are important to me would rather buy eco-friendly products than regular products.												
13. People whose opinion I value would think that buying eco-friendly products is the acceptable thing to do.												

SOCIAL APPROVAL	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**NA**
14. For me, it is important that the people I value approve of my actions												

COGNITIVE ATTITUDE	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**NA**
15. I personally think that purchasing eco-friendly products is a good thing to do.												

16. I think that purchasing eco-friendly products is also a wise thing to do.												
17. For me, purchasing eco-friendly products is, or would be, more rewarding than buying other products.												

PURCHASE INTENTION	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**NA**
18. I intend to buy eco-friendly products or will continue to buy eco-friendly products in the near future.												
If scored below 5, ask the question: What would you say is the reason you may not buy eco-friendly products in future?												

For the following questions, please take note that there isn't a right or wrong answer for any of them, we welcome you to give your honest opinion. Also, please make sure that you consider the scale on each question, as the questions are mixed. Again, on a scale of scale of 0 to 10 where 0 is do not agree at all and 10 is fully agree, how much do you agree with the following statements.

ENVIRONMENTAL BELIEFS (NEP)	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
19. We are approaching the limit of the number of people the earth can support.											
20. The so-called 'ecological crisis" facing humankind has been greatly exaggerated *(inverse).*											
21. Plants and animals have as much right as humans to exist.											
22. The balance of nature is <u>not</u> strong enough to cope with the impacts of modern industrial nations.											
23. Humans are severely abusing the environment.											
24. If we continue as before, we are approaching an environmental catastrophe.											

25. Respondent gender	
a) Male	
b) Female	

26. Respondent age	
a) 18-25	
b) 26-40	
c) 41-60	
d) 61 and older	

27. Respondent income	
a) 0-8000	
b) 8001-20 000	
c) 20 001 and more	