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The role of environmental knowledge and information in young female consumers' selection and evaluation of environmentally friendly apparel

DINELE MOMBERG

Dissertation

M Consumer Science (Clothing Retail Management)

Supervisor: Mrs BM Jacobs
Co-supervisor: Mrs N Sonnenberg

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by

DINELE MOMBERG

Dissertation submitted in partial fulfilment of the requirements for the degree
M Consumer Science (Clothing Retail Management)

In the

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Department of Consumer Science

University of Pretoria

Supervisor: Mrs BM Jacobs

Co-supervisor: Mrs N Sonnenberg

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DECLARATION

I, **Dinele Momberg**, hereby declare that the dissertation for the **M in Consumer Science: Clothing Retail Management degree** at the University of Pretoria, hereby submitted by me, has not previously been submitted at this or any other university, that this is my own work in design and execution and that all reference material in the dissertation has been duly acknowledged.

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DINELE MOMBERG

31 August 2011

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I'm grateful that my dad was able to see me complete this dissertation and receive my results. Even though you are not here anymore, I know you are proud of me, Dad.

SUMMARY

The role of environmental knowledge and information in young female consumers' selection and evaluation of environmentally friendly apparel

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Textiles and clothing represent the world's second largest industry, which also makes this industry one of the most polluting industries in the world, and therefore this industry should reconsider its practices in respect of the environmental impact it has. The entire life cycle of an apparel item has an impact on the environment, from the product design stage to the disposal of an apparel product. Environmentally friendly apparel products refer to apparel products which have been created with consideration of the environmental impact of the production process. The consumer's apparel decision-making process consists of five stages, namely: awareness, interest, evaluation of alternatives, decision and post-buying response. Buyer behaviour is inherently determined by a consumer's knowledge or extra information that a consumer obtains. The acquisition of environmentally friendly apparel is therefore influenced by environmental knowledge. It is consequently crucial to provide consumers with relevant information regarding the environmental

impact of their apparel consumption choices in order to facilitate consumers in making more environmental friendly apparel decisions.

Very limited research exists on consumers' environmentally friendly apparel purchasing practices, especially in the South African context. Insufficient literature also exists regarding the role of environmental knowledge and information source exposure in the acquisition of environmentally friendly apparel.

The purpose of the research was to explore and describe how environmental knowledge and exposure to information about environmental issues are reflected in consumers' choice of apparel products. A qualitative approach was used to explore young female consumers' existing levels of environmental knowledge, and whether that environmental knowledge is reflected in the evaluation and selection of apparel as well as the role environmental information plays on their purchase decision. Non-probability purposive sampling was used to ensure the inclusion of young female students (19–22 years old, n = 29). Participants first had to write an essay on the subject of pertinent environmental issues and then participated in a focus group discussion on the evaluation and selection of a t-shirt.

Results suggest that the participants have general environmental knowledge. They have the ability to identify environmental problems as well as the causes and consequences of these environmental problems. However, participants' environmental awareness and their knowledge pertaining to the actual production and supply of environment-friendly apparel in the South African context were very limited. The results also highlight the product attributes important to the participants when evaluating and selecting apparel such as price, aesthetics and functionality of the garment, but environmental attributes such as organic cotton, locally produced, reduced waste techniques and not using harmful chemicals did not feature high under the attributes participants considered. They prioritized price, aesthetics and fit above other attributes (including environmental attributes). Environmental knowledge was not consciously considered in their general apparel decision-making, even though participants indicated that they do care about the environment. It also seems that information source exposure relating to the environmental impact of clothing had no effect on their purchase decision process. When probed, certain barriers emerged

that prevented the participants from using environmental knowledge or the information source exposure in their decision-making. These barriers are: the relevance of non-environmentally related product attributes, the availability of environmentally friendly apparel, a lack of relevant knowledge, and perceived consumer effectiveness.

While the study had certain limitations, the findings should be valuable to manufacturers, retailers and marketers of environmentally friendly apparel and further research is needed, especially in the South African context, relating to environmentally friendly apparel and consumer behaviour.

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CHAPTER 1

THE STUDY IN PERSPECTIVE

1.1 BACKGROUND AND JUSTIFICATION OF THE STUDY

According to the 2010 the *Living Planet Report* issued by the World Wide Fund for Nature (2010) if we as humans continue living the way we do, an extra planet will be needed by 2030 just to sustain humanity. According to Freemantle (2009:6), the average individual footprint of the South African consumer is 2.1 global hectares (gha) per person. The world average is 2.7 gha, and while this seems positive, this does not indicate that South Africans have a sustainable lifestyle. Water, vegetation and fresh air are paramount to life, but these resources are currently being depleted at a more rapid rate than earth can replenish them. The impact of humans on the environment can no longer be ignored. It is important for all industries to incorporate environmental sustainability into their everyday business strategy. Consumers also need to revisit their purchase choices, as the environmental impact of their consumption choices cannot be ignored.

The textile and clothing industry should also re-look the environmental impact it has. Textiles and clothing represent the world's second largest industry and is also one of the most polluting industries in the world (Moore & Ausley, 2004:586). It is obvious that the textile and apparel industries also need to reconsider their current practices to make them more environmentally sustainable. In sketching the appropriate background and justification for this study, this chapter will provide an overview of the current textile and clothing industry in South Africa; the negative impact apparel has on the environment, consumer behaviour regarding apparel, as well as a summary of the study.

1.2 THE SOUTH AFRICAN CLOTHING AND TEXTILE INDUSTRY

Compared globally, the South African textile and clothing industry is relatively small. The clothing production industry is one of the six most important industries in South Africa (Morris, Barnes & Dunne, 1997:1). The South African clothing and textile industry generates annual sales of R34 billion[1], with the textile industry contributing R17.4 billion[2] and the clothing industry contributing R16.6 billion[3] respectively. Despite its minor status within the global context, the industry does provide employment to a significant proportion of the South African population, especially in some rural areas, where it is the only source of formal employment (Vlok, 2006:226), and often employs low-skilled workers. The sector is the most labour-intensive sector in manufacturing, and most companies are small to medium-sized, employing 20 to 200 people (Vlok, 2006:229). While the South African industry is small it does contribute to the global textile and clothing industry.

South Africa produces a significant amount of fibres, especially wool and mohair. In the past decades the industry has also developed the capacity to produce synthetic fibres (Vlok, 2006:242). About 40 000 tonnes of cotton are produced each year (Internet: South Africa Info, 2007). Most of this cotton is conventional cotton and not organically grown, which is a more environmentally friendly cotton. Furthermore, Woolworths in cooperation with ComMark, Cotton SA, the Organic Exchange and the Agricultural Research Council Institute for Industrial Crops, initiated a pilot project on organic cotton farming in 2004 as a method to learn more about organic cotton farming for all partners involved (Internet: South Africa Info, 2007). A number of organic cotton sites were established on commercial and small-scale farms, even though organic cotton is still not as popular as

[1] Approximately $ 4.16 billion / €3.26 billion

[2] Approximately $ 2.13 billion / €1.67 billion

[3] Approximately $ 2.03 billion / €1.59 billion

conventional cotton (Internet: South Africa Info, 2007). Apart from cotton, South Africa is also currently successfully growing and processing natural fibres such as flax and hemp. This is largely due to the automotive and aeronautical industries, which demand environmentally friendly body parts (Internet: South Africa Info, 2007). From this it can be seen that the opportunity to produce environmentally friendly apparel does exist in South Africa.

Even though South Africa has the production capabilities, 85% of the apparel available in South Africa has its origins in China (Vlok, 2006:234). A possible reason for this is that the products from Asia are usually cheaper than the locally produced goods. Because the South African market is so prone to being flooded with cheap imports, incorporating environmentally sound practices, such as sourcing environmentally friendly textiles, has not been an easy task for South African manufacturers amidst a battle against cheaper imported goods (Vlok, 2006:234). From an environmental point of view, even though environmental laws do exist in China, these laws are not always enforced and therefore the imported goods are not always environmentally sound (Chan, 1999:26). Even if the South African companies that import apparel goods from China wanted to produce more environmentally friendly garments, this might not always be possible.

While South Africa might not be able to compete with the huge amount of imports, the textile and apparel industry in South Africa can gain a competitive advantage through growth in innovation and technology (Vlok, 2006:241), especially in terms of environmentally friendly apparel.

1.3 THE ENVIRONMENTAL IMPLICATIONS OF THE APPAREL MANUFACTURING SUPPLY CHAIN

Manufacturers, retailers and marketers are increasingly challenged by the impact of their conduct on the environment and have to consider the implementation of environmental policies. Environmental policies often require a re-evaluation of the entire supply chain. A supply chain can be seen as all the activities associated with moving apparel from the raw materials stage to the consumer (Nieman & Bennett, 2002:17).

Every step of the supply chain, from the manufacturing process, to distribution, consumption and the eventual disposal of apparel products has an impact on the environment (Reay, 2007). Ideally, a consumer should be able to evaluate the environmental friendliness of a product based on a “cradle-to-grave” life cycle analysis (LCA), which encompasses each step in the supply chain. According to Dickson, Loker and Eckman (2009:250), there are six distinct stages in an apparel product’s life cycle that impact on the environment and determine its environmental friendliness. The six stages are: product design, materials selection, production and sourcing, distribution, product care, and end-of-use management (Dickson *et al*, 2009:250).

In this study environmentally friendly apparel products refer to apparel products which have been created with consideration of the environmental impact of the production process, and where possible, replacing harmful processes, chemicals and products with less harmful substitutes.

1.3.1 Product design

The foundation of any apparel product is the design. Design refers to the criteria that are set out based on attributes that consumers deem necessary (Dickson *et al*, 2009:260). Attributes are the criteria used for evaluating a product and are the standards, characteristics or specifications used by consumers to compare products and brands. It differs between people and across cultures and it is important to know what consumers view as important in an effort to satisfy their needs (Cant, Brink & Brijball, 2006:119; Solomon & Rabolt, 2004:365; Taylor & Cosenza, 2002:396; Zhang, Li, Gong & Wu, 2002). In general, apparel product attributes are divided into two main categories, namely intrinsic and extrinsic attributes and can include, among others, the type of fabric, colour and shape of a garment (Barclay, 2007:39; Frings, 2002:174).

The ideal goal is to design a product that not only meets customer requirements, but also minimises the environmental impact that product has during its life cycle (Barclay, 2007:39). The choices made in the design process influence the way in which the product is produced, packaged and sold (Barclay, 2007:39). It is therefore imperative that sensitivity toward environmental implications be incorporated from the design stage and that it should not be seen as a mere afterthought (Dickson *et al*, 2009:251).

1.3.2 Materials selection

The next step in an apparel product's life cycle is the selection of materials. This is probably the step most often linked to the impact it has on the environment (Dickson *et al*, 2009:261). Raw materials often have a direct impact on the environment. Growing natural fibres, such as cotton, requires vast amounts of fertilisers, herbicides and pesticides, which are not only harmful to the

environment, but also to the labour force attending to these crops. These chemicals are toxic to plants, insects, animals and people, and in the case of excessive rain, contaminate the run-off (Kadolph & Langford, 2002:40). As a further illustration, even though cotton fields constitute less than 3% of the world's farmlands, "25% of the annual worldwide insecticide use and 10% of the annual worldwide pesticide use are applied to conventionally grown cotton" (Choinard, 2005:212). In addition, this cotton is also considered a water-intensive crop (Kadolph & Langford, 2002:40). Synthetic fibres, on the other hand, are also harmful to the environment as the production process requires large amounts of water and energy and most synthetics are produced using petrochemicals (Kadolph & Langford, 2002:101).

The above examples illustrate some of the complexities involved regarding the environmental implications in the process of choosing appropriate materials. Even when the original design called for environmentally friendly materials, there may be some obstacles, such as the price and availability of the materials. Organic cotton, although produced according to organic farming practices, is more expensive than conventional cotton due to lower fibre yield and more labour-intensive practices (Kadolph & Langford, 2002:40).

While it is acknowledged that complications are involved, producers, manufacturers and designers in their selection of materials should embrace the concept of sustainable development. This concept refers to development that will make it possible for today's generation to satisfy their needs without inhibiting future generations' ability to satisfy theirs (Jernelöv & Jernelöv, 2005). This concept should also form the basis of decisions regarding production and sourcing.

1.3.3 Production

Production involves the manufacturing of the textile and apparel item (Kadolph & Langford, 2002:380) and includes the processing of fibres and fabrics, the cutting and assembly of the garments as well as the finishing of the apparel products (Frings, 2002:192-214). Most fibres and fabrics undergo wet processing, which involves cleaning, bleaching, dyeing and the finishing of fabrics using aqueous solutions. The wet processing of textiles produces large amounts of wastewater that is polluted with harmful chemicals (Moore & Ausley, 2004:586-588). Most normal classes of dyes are made from petroleum sources (Moore & Ausley, 2004:587). The environmental impact can be reduced in this step of the life cycle by using vegetable or natural dyes (Kadolph & Langford, 2002:370).

In addition to the wet processing of apparel, the production of fibres and fabrics also contributes to noise and air pollution. Emissions into the air include carbon dioxide, formaldehyde and sulphurous compounds, whereas spinning and weaving causes high-intensity noise and dust (Kadolph & Langford, 2002:369). The production of apparel products also contributes to waste (Larney & Van Aardt, 2004:61). Waste can be defined as “anything that goes into a process that does not come out as a product or as an input into another product” (Barclay, 2007:14). Waste generated from production methods of the fibres, fabrics or apparel items is termed pre-consumer waste (Chen & Burns, 2006:256-257) and includes effluent discharge, cut-offs or fabric scraps (Barclay, 2007:14; Frings, 2002:206). Fortunately, most companies are focused on recycling such waste (Chen & Burns, 2006:256-257), but simultaneously unwanted apparel products caused by overproduction also becomes a waste problem to contend with (Dickson *et al*, 2009:265). Production of garments is done based on sales forecasts and these forecasts are not always accurate, leading to additional unwanted units of garments (Frings, 2002:192).

The production of garments is usually contracted out to different manufacturing factories (Frings, 2002:192). While factories are located all over the world, apparel generally gets manufactured in the country that can produce the best garment at the lowest price (Frings, 2002:193). This is also the case in South Africa and has several implications for the environment. Even though the textile industry is affected by regulations and laws regarding the environmental impact of their practices, not all countries have strict regulations and laws or environmental policies, which make it easier for companies to use "dirty" production methods in those countries. Also, a lack of expertise might lead to a lack of environmentally sound practises. Matters are further complicated by retailers who are more concerned about their profit margin than the environment (Freemantle, 2009:88; Steyn, 2002:47). In the end, environmentally conscious companies have to compete with non-environmentally friendly companies (Kadolph & Langford, 2002:359). This scenario further progresses into the sourcing and distribution of apparel products.

1.3.4 Sourcing and distribution

Distribution of apparel products refers to the transportation and the packaging of the product (Dickson *et al*, 2009:266). While consumers do not always realise it, apparel products are often imported from other countries, such as China or India (Fundira & Sandrey, 2008), and/or the fabrics and other raw materials are shipped from thousands of kilometres away, all of which contributes to the environmental footprint of apparel items. Thus, even though an apparel product may be produced using environmentally friendly materials and methods, the environmental costs associated with transporting the item may nullify any environmental gains achieved through cleaner production methods (Dickson *et al*, 2009:266).

The distribution of finished apparel products also impacts on the environment through the use of plastics and other packaging materials, which contributes to waste generation. At each stage during production, distribution and sales, the use of packaging needs to be evaluated. According to Dickson *et al* (2009:266), the most effective means of waste management regarding packaging, is not to use any packaging at all – however, in practice this is not always possible as packaging is usually needed to transport goods, deliver it to distribution centres and present it to customers.

After products are made available in stores, consumers buy the products and ultimately wear and use these garments. Consumers therefore also play a direct role in the environmental impact of apparel through caring for and disposing of a particular garment.

1.3.5 Product care

Product care relates to the cleaning, washing, drying and other processes that are needed to keep an apparel product suitable for wear. Environmental implications extend further into the actual consumption of apparel products as well as various post-purchasing practices. Washing and the use of detergents are known to have a detrimental effect on the environment (Jones & Bourne, 2006:14). According to Dickson *et al* (2009:267), consumer product care uses more energy than all the other phases of the product's life cycle combined. Breds, Hjort and Kruger (2002:53) reinforce this statement by declaring that a couple of washes and tumble-drying sessions use more energy than was used in the production process of certain textile products.

Dry-cleaning is also not an ideal option as it can be even more harmful to the environment than normal laundering. Fortunately, the availability of environmentally friendly washing detergents has increased and offers consumers

the opportunity of engaging in more environmentally responsible product care. The concept of acquiring better quality garments that will last longer and eliminate frequent replacement, may be another aspect to consider (Chen & Burns, 2006:255-258). However, as Dickson *et al* (2009:269) state, consumers do need more information regarding the environmental impact of apparel than is usually available. They recommend that hangtags and other forms of marketing can help inform consumers about specific clothing care options.

1.3.6 End-of-use management

Textile and apparel products can be reused, recycled and redesigned, or disposed of by means of incineration or landfills (Dickson *et al*, 2009:258). It is better for the environment to rather reuse, recycle or rework garments; however, most garments end up in landfills (Chen & Burns, 2006:256-257; Joergens, 2006:361; Woods, 2006:320; Breds *et al*, 2002:6). In this regard it is important to note that fibres do not degrade in landfills. Even natural fibres, which are supposed to degrade when exposed to nature, will not follow a natural process of degradation in landfills (Kadolph & Langford, 2002:76, 372). In South Africa the only means of disposal is through landfills (Barclay, 2007:10). Exact figures are unknown for the South African context, but in the USA apparel and textile products contribute to 4 million tons of landfills annually.

Unfortunately, very few textiles can be recycled due to different fibre content, dyes and other component parts in apparel items (Chen & Burns, 2006:256-257; Kadolph & Langford, 2002:372). South African consumers have very little choice or opportunity to recycle their garments; however, they should try to donate clothing items to charities, instead of disposing of them. Some companies such as Alabama Chanin, an American-based company, produce ready-to-wear shirts, skirts and dresses out of used T-shirts (Dickson *et al*, 2009:263). These clothing

items can also be seen as environmentally friendly apparel as the worn apparel product is recycled into new apparel products.

1.4 ENVIRONMENTALLY FRIENDLY APPAREL AND CONSUMER BEHAVIOUR

Based on the previous discussion it is evident that the clothing and textile industry has a major impact on the environment, which necessitates more drastic measures in encouraging pro-environmental action. From a manufacturing and supply point of view, producing environmentally friendly apparel products would represent a more environmentally responsible approach (Dickson *et al*, 2009:250). Practical examples would include reducing water consumption during the production process or using organic cotton or vegetable fibres such as hemp, instead of conventional cotton or synthetic fibres which are more harmful to the environment (Joergens, 2006:361; Woods, 2006:320; Breds *et al*, 2002:27).

However, as already illustrated above, apparel manufacturers may face many obstacles with the implementation of environmental initiatives (Joergens, 2006:363). On the other hand, consumers influence what products are made available to them (Kadolph & Langford, 2002:368), but if a manufacturer does not supply it, a consumer cannot purchase it and will most likely not be aware of it.

From the consumers' point of view, environmentally friendly products still have to succeed in addressing their most basic needs, regardless of the environmental impact they may have. Comfort, pleasure, convenience, price and personal fashion needs come first for most consumers (Joergens, 2006:369-370; Vermeir & Verbeke, 2006:170; Yam-Tang & Chan, 1998:356-362; Martin & Simintrias, 1995:16; Shrum, McCarty & Lowrey, 1995:72; Davis, 1993:19). Apart from the above, consumers may not have the knowledge to identify with and therefore actively purchase these products (Joergens, 2006:370; Pantzar, Raijas &

Eeiskanen, 2005:1; Kadolph & Langford, 2002:368; Butler & Francis, 1997:77; Davis, 1993:19).

While advances have been made regarding environmentally friendly apparel, consumers may not have all the information regarding apparel products, due to a lack of, or conflicting or misleading information (Kadolph & Langford, 2002:368). Consumers make assumptions about apparel products and often these assumptions are too simplistic, as consumers may believe that natural fibres are better for the environment than synthetic fibres (Kadolph & Langford, 2002:368) or they might think that cotton is environmentally friendly, whereas in reality it is the most pesticide-intensive crop in the world (Jones & Bourne, 2006:99). Consumers therefore need to be educated about the link between their product choices and environmental impact. Consumers in real-life situations do not have sufficient information about the impact their consumption choices have on the environment and this link needs to be shown in marketing campaigns (Pantzar *et al,* 2005; Minton & Rose, 1997:45). It is therefore important for consumers to receive information that depicts the positive outcome their environmentally responsible consumption behaviours have, since they may believe that their behaviour is ineffective (Ebreo, Hershey & Vining, 1999:131*).* According to Vermeir and Verbeke (2006:175), perceived consumer effectiveness is necessary to move consumers into buying environmentally friendly products. Perceived effectiveness is the extent to which a consumer believes his actions will have an influence in the solution of a problem (Vermeir & Verbeke, 2006:175).

Knowledge is the foundation on which consumers base their evaluation of products and ultimately their purchasing decisions (Swinker & Hines, 2006:222; Straughan & Roberts, 1999:562; Martin & Simintrias, 1995:16). Every step of the decision-making process is influenced by knowledge as it impacts on the information search a consumer does (Laroche, Bergeron & Barbaro-Forleo,

2001:505). It is therefore crucial to provide consumers with relevant information regarding their apparel consumption choices. By educating and informing consumers that they are part of a larger whole which is affected by their consumption decisions, they can be encouraged to make more environmentally sound choices and subsequently pursue a more sustainable lifestyle (Erasmus, Kok & Retief, 2001:119; McGregor, 1998b: 36) which would be less detrimental to the survival of the planet.

1.5 IMPORTANCE OF RESEARCH

Considering all of the above, a study exploring the role of knowledge and information sources in consumers' choice of environmentally friendly apparel can be valuable to manufacturers, retailers, marketers and consumers.

Manufacturers understanding how consumers engage in analysis and decision-making and what consumers deem as important product attributes, can help the development of environmentally friendly products, as well as the supply of these products. By analysing the decision-making process of consumers, the variables and criteria that influence a consumer's final decision can be discovered (Cant *et al*, 2006:205). This is also important for retailers, as they need to have a product offering which consumers are willing to buy. In terms of marketing, important aspects of green advertising can be discovered as the role of knowledge and the impact of information sources are explored. This can assist in better promotional tools.

Several studies in Europe, the USA and Asia (Joergens, 2006; Vermeir & Verbeke, 2006; Chan, 1999; Yam-Tang & Chan, 1998; Martin & Simintrias, 1995; Shrum *et al*, 1995; Davis, 1993) have highlighted features in terms of various environmentally friendly product categories. Although a substantial amount of research has focused on environmentally friendly products, especially within the

context of more developed First World countries such as Asia and Europe, few of these studies have directed attention on apparel products. Topics of these studies included attitudes and behaviours of consumers regarding the environment (Chan, 1999; Yam-Tang & Chan, 1998;) the segmentation of green consumers (Zelezny, Chua & Aldrich, 2000; Brown & Wahlers, 1998; Shrum *et al*, 1995), green marketing (Zinkhan & Carlson, 1995; Davis, 1993) and food products (Vermeir & Verbeke, 2006).

To date, a contextual gap exists in the literature with regard to environmentally friendly apparel in South African. Manufacturers and retailers could benefit from this study, as it should determine whether information sources and environmental knowledge have an impact on the choice of environmentally friendly apparel products and possibly discover a new market segment, which is willing to buy environmentally friendly products. The study can also be beneficial to marketers for the same above-mentioned reason, as well as them obtaining information about how marketing tools can be used in the promotion of environmentally friendly apparel. Ultimately, the main goal for manufacturers, retailers and marketers is to create products, which consumers will buy. This study could help them obtain information about what consumers expect and need from environmentally friendly apparel. It may also shed some light on consumers' purchasing and decision-making processes in terms of environmentally friendly apparel.

1.6 RESEARCH PROBLEM AND QUESTION

The above overview illustrated that insufficient research has been done on consumers' environmentally friendly apparel purchasing practices in South Africa. Limited information is available on consumers' environmental knowledge that pertains to their ability to recognise environmental problems, causes and consequences of problems as well as certain facts and concepts needed to

explain them (Haron, Paim & Yahaya, 2005:429). It is also not known to what extent exposure to informational sources regarding the impact of unsound apparel manufacturing practices contributes to consumers' decision to purchase environmentally friendly apparel. From the discussion presented as background to this study, it is evident that gaps exist regarding context-specific research about the role of environmental knowledge and exposure to information sources in consumers' apparel purchasing practices in South Africa. To assist consumers in making better environmentally orientated apparel decisions, consumer facilitators, marketers and retailers need to understand consumers' current environmental knowledge, apparel decision-making process and the impact of information sources to facilitate a change in consumers' environmental behaviour.

Taking the above into account, the following research question was formulated for this study:

What is the role of environmental knowledge and exposure to information sources in young female consumers' selection and evaluation of apparel products?

1.7 CONCEPTUAL FRAMEWORK AND THEORETICAL PERSPECTIVE

The systems approach forms the underlying theoretical perspective for this study. The systems approach enables consumer decision-making to be understood within the broader context of an environment in which sets of objects are connected to each other as well as to the larger surrounding environment (Whitchurch & Constantine, 1993:325; Spears & Vader, 1985:23;). The major components encapsulated in a system are inputs, transformation and outputs. The conceptual framework developed for the study can be viewed in Chapter 3. A discussion of the conceptual framework is also presented in Chapter 3. It

incorporates concepts included in models presented by Schiffman and Kanuk (2007:531), Solomon and Rabolt (2004:352), as well as Sproles and Burns (1994:264).

1.8 RESEARCH OBJECTIVES AND SUB-OBJECTIVES

The purpose of the research was to explore and describe the role of environmental knowledge and exposure to information about environmental issues in consumers' selection and evaluation of apparel products. The aim was to gain more in-depth insight and an understanding of the above-mentioned issue. The strategy was contextual as the study aimed to understand the use of environmental knowledge in a specific context, namely the apparel buying decision. There was no pre-set hypothesis for this study as the researcher worked inductively and tried to describe situations in their natural setting as accurately as possible, and to develop theory from the observations made.

The following objectives were developed for the study:

Objective 1

To explore and describe the role of environmental knowledge in young female consumers' selection and evaluation of apparel.

Sub-objectives:

- To explore and describe the existing levels of environmental knowledge among young female consumers in terms of:
    - Their ability to recognise environmental problems
    - Their ability to recognise the causes and consequences of environmental problems
    - Their ability to recognise the facts and concepts necessary to explain environmental problems

- To explore and describe the role of environmental knowledge as criteria in young female consumers' s selection of apparel.

Objective 2

To explore and describe the role of exposure to various environmental information sources in young female consumers' selection and evaluation of environmentally friendly apparel.

Sub-objectives:

- To explore and describe the role of popular media information about environmental issues (TV and magazines) on young female consumers' selection of apparel.

- To explore and describe the role of word-of-mouth information by their peer group in young female consumers' selection of apparel.

- To explore and describe the role of in-store information (labels/swing tags) on the young female consumers' selection of apparel.

1.9 RESEARCH DESIGN AND METHODOLOGY

This abstract of the methodology is given to gain a better perspective of the study. The details of the methodology are discussed in Chapter 4.

The research was exploratory and descriptive in nature, which inspired a qualitative research approach. A cross-sectional study was conducted as the researcher wanted to understand and describe the current situation regarding the use of environmental knowledge in the evaluation and selection of young female consumers' apparel decision-making (Babbie & Mouton, 2001:92). Results from this type of study can be useful as base for quantitative studies since the results

cannot be generalised but rather provide an understanding of some of the issues in the South African context.

The unit of analysis for this study was female university students between the ages of 19 and 22 years. For the purposes of this study, a student sample was particularly appropriate, as they represent future households in a world that is already faced with major environmental crises and will therefore be most affected by environmental deterioration. These students also represent an important group of future decision-makers and can generally be seen as more apparel and fashion orientated consumes (Taylor & Cosenza, 2002:393-408; Sproles & Burns, 1994:276).

Non-probable sampling was used, as the intention was to gain insight rather than to generalise the findings. Purposive sampling ensured the inclusion of young female students, between the ages of 19 and 22. As the sampling design was purposive, potential candidates were evaluated based on set criteria. In adopting a predominantly qualitative approach, the sampling and sample size was dependent on the saturation of the data (De Vos, 2005:378). A total of 29 participants took part in the research. Access to the participants was gained through contacts in university residence. Participants were divided into focus groups for additional data collection purposes. A total of eight focus groups were held.

Qualitative data collection methods were used to explore the issue from the participants' point of view. Various techniques were used for data collection. The qualitative nature of the study produced a large amount of raw data. The hand-written data from the knowledge essays and the recorded focus group discussions were transcribed to electronic format. Data analysis entailed the managing and organising of the data, reading and writing memos, generating categories, themes and patterns, coding the data, developing understanding and drawing conclusions from the data (De Vos, 2005:334).

1.10 PRESENTATION AND OUTLINE OF THE STUDY

This study will be presented in six chapters:

CHAPTER 1 provides an overview and summary of the study, identifying the environmental impact of the apparel supply chain as well as highlighting some main concepts of the study, including environmentally friendly apparel, environmental knowledge and information.

CHAPTER 2 offers an overview of important concepts based on previous literature. Environmentally friendly apparel, environmental knowledge, the consumer buying decision-making process and different information sources are discussed. These concepts are interpreted according to a systems approach, which also represents the underlying basis of the global perspective.

CHAPTER 3 provides an overview of the theoretical framework that was used in the study. The systems approach was used in this study as it forms a basis to explore consumer apparel decision-making based on certain inputs, a transformation process and reaching a favourable decision as output.

CHAPTER 4 provides a detailed description of the research methodology. A detailed description and justification of the research design, strategy and approach is given. Qualitative data collection techniques, sampling procedures, unit of analysis and data analysis are also discussed and briefly explained. Measures taken to ensure the objectivity and trustworthiness of the study are highlighted.

CHAPTER 5 deals with the findings of the research study. The findings are described, discussed and interpreted according to the objectives and conceptual framework developed for the study.

CHAPTER 6, the last chapter of the dissertation, contains the conclusions derived from the main findings. Implications for manufacturers of environmentally friendly apparel, retail offerings, marketing strategies and consumer behaviour are presented. The practical implications of the findings, the limitations of the study and suggestions for future research are highlighted. It is however important to note that the conclusions drawn in **CHAPTER 6** are only applicable to the participants that took part in this study and therefore the results should not be generalised to the wider population.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter provides an overview of important concepts based on previous literature. Environmentally friendly apparel products, environmental knowledge, different information sources and the consumer decision-making process will be conceptualised and discussed based on current literature available.

2.2 ENVIRONMENTALLY FRIENDLY APPAREL

Every step of the conventional apparel manufacturing process has an impact on the environment (Reay, 2007). Vast amounts of water are used in the production and wet processing of textiles (Moore & Ausley, 2004:586-588). In conjunction with the amount of water used, chemicals are also used in the production process and this causes wastewater (Moore & Ausley, 2004:586-588). The wastewater is not always treated and leads to contamination of other water sources.

Another factor contributing to the negative impact of the apparel manufacturing process on the environment is the transportation and distribution of apparel. As was mentioned earlier, apparel is produced in different countries and then shipped to the location where it is needed. This contributes to the carbon footprint of apparel. The consumption and disposal of these products also have a negative impact on the environment. Washing and the use of detergents have a negative effect on the environment (Jones & Bourne, 2006:14), while washing and drying uses vast amounts of energy.

The main sphere of research in this study focuses on environmentally friendly apparel. In terms of this study, environmentally friendly apparel products can be seen as those apparel products produced where environmental aspects relating to the product were assessed and considered and improved upon (Breds *et al*, 2002:6). Environmental impact refers to the effect the products have on the environment, through production, use, care, and finally disposal (Chen & Burns, 2006:248).

Examples of environmentally friendly apparel products are those produced using organic cotton or vegetable fibres such as hemp (Breds *et al*, 2002:27). Organic cotton is handpicked cotton that has been grown without using pesticides, defoliants or herbicides (Breds *et al*, 2002:48. The yarns from organic cotton can also be spun without using lubricants and other chemicals (Breds *et al*, 2002:48). Another option for producers who wish to sell more environmentally friendly products is to use low-impact or bi-functional dyes, or natural dyes from plants or trees, as well as other safe finishes (Frings, 2002:177; Kadolph & Langford, 2002:370).

However, not all environmentally friendly apparel is made from natural fibres. In the USA, the American Textile Manufacturers Institute developed a programme called Encouraging Environmental Excellence. This programme provides guidelines for environmentally sound practises and includes procedures such as producing polyester from recycled bottles and using wool in natural sheep colours and colour grown cotton (Kadolph & Langford, 2002:370).

Currently, globally as well as in South Africa, some companies are actively producing and selling environmentally friendly products. Woolworths, for example offers an organic clothing range and promotes the use of natural fibres (Freemantle, 2009:88). Levi Strauss, Nike and Patagonia, who use fabrics made from recycled plastic bottles (Frings, 2002:177), are some of the companies

committed to saving the environment by supplying environmentally friendly apparel. Even though these companies offer environmentally friendly apparel, a lack of awareness or knowledge about these products may be a barrier to consumers purchasing it. In order for environmentally friendly apparel to be viable, consumers need to actively purchase it, and this entails a change in their own consumer behaviour. Consumer behaviour is defined in Schiffman and Kanuk (2007:3) as "the behaviour that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they expect will satisfy their needs". Environmentally friendly apparel therefore needs to meet the demands of consumers who wish to actively purchase such garments.

2.3 ENVIRONMENTAL KNOWLEDGE

In general, knowledge is described as structures, frameworks or concepts already in an individual's memory, forming part of a consumer's cognition (Klees, Olson & Wilson, 1988:153). Cognition refers to the knowledge and perceptions of an individual, which are obtained through experience or other sources of information (Du Plessis & Rousseau, 2003:262). In the fashion clothing context, product knowledge is viewed as all the information already obtained about different brands in the product class, sorted according to product use background, product attribute knowledge, frequency of use and experience with fashion clothing (O'Cass, 2004:872). This means that knowledge is everything a consumer knows about a product based on what they have learned due to exposure and experience with the product (Cant *et al*, 2006:197; Solomon & Rabolt, 2004:360). Knowledge occurs in the form of facts, experiences, opinions, judgements, predictions, algorithms and relationships usually collected from experts in the relevant field (Metaxiotis, 2004).

With regard to environmental knowledge, Haron *et al* (2005:429) explain that it is the "ability to recognize environmental problems, the causes and consequences of such problems including facts and concepts necessary for explanation". From this definition environmental knowledge can be broken down into the ability to recognise environmental problems, recognising the causes and consequences of environmental problems as well as the facts and notions necessary to explain these concepts.

2.3.1 Environmental problems, causes and consequences

According to Freemantle (2009:4-5), the main environmental problems currently facing South Africa are the different types of pollution, waste, global warming or climate change and the depletion of natural resources. Each of these aspects may form part of an individual's general awareness and knowledge about environmental issues and thus requires brief explanation.

Pollution can be defined as "the result of the release to air, water or soil from any process or of any substance, which is capable of causing harm to man or other living organisms supported by the environment" (The Enviropedia, 2006:223). Another way to describe pollution is that "it is waste that has been inadequately managed or controlled and which results in unnecessary damage" (The Enviropedia, 2006:223). There are different types of pollution including air, water, noise or land pollution, the root cause of which can be traced to pollutants or waste. Pollutants that cause air pollution are, for example, formed and emitted from car exhausts, industry, fires and chemical processes in industry (The Enviropedia, 2006:29). Toxic solid or liquid wastes that are dumped on land, can filter into the soil, percolate down and contaminate groundwater and consequently cause land or water pollution. Fuel burning energy, industrial, transportation and residential sectors also contribute to the problem of pollution (Scorgie, 2006:20). Examples of the consequences of pollution include acid rain,

contaminated groundwater as well as illnesses and diseases (The Enviropedia, 2006:29, 223).

Littering and waste are both issues that contribute to pollution. Littering is perceived as a behavioural problem, which can only be overcome by changing the mindset of South Africans about littering (Theron, 2006:272). Waste is defined as “undesirable or superfluous by-product, emission, or residue of any process or activity which has been discarded, accumulated or been stored for the purpose of discharging or processing. It may be gaseous, liquid or solid or any combination thereof, and may originate from a residential, commercial or industrial area. This definition includes industrial wastewater, sewage, radioactive substances, mining, metallurgical and power generation waste” (Theron, 2006:271). Waste can be reduced through recycling (Lombard, 2006:235).

In addition to the above, global warming and climate change are environmental issues frequently highlighted in the media. It is generally described as “the rise in the planet’s overall temperature due to anthropogenic (human-related) increase of greenhouse gasses in the atmosphere” (Dada, 2006:149). Some of the causes are inappropriate or poor development, overuse of resources and environmental degradation (Dada, 2006:149). The consequences of global warming and climate change range from changes in the distribution of biodiversity, as well as changes in rainfall, which has an effect on agriculture, rivers and wetlands, while rising sea levels would result in flooding of coastal areas.

The depletion of natural resources is another environmental problem. Natural resources refer to “the basic materials and resources that are produced through the earth’s own inherent natural processes and systems”. This includes water, minerals and other resources in soil, such as coal, plants and animals. The main cause of this problem is unsustainable use and mining of these resources, and the consequences of this problem will lead to a loss of natural diversity, land degradation and extinction of species (Faccer, 2006:201).

According to Haron *et al* (2005:427), environmentally friendly behaviour is influenced by a general awareness and knowledge about environmental issues such as those described above. It is speculated that by improving public environmental knowledge, environmentally friendly behaviour may be increased (Haron *et al*, 2005:438; Straughan & Roberts, 1999:569; Brown & Wahlers, 1998:40). It has however also been argued that, even though an individual may possess environmental knowledge, it does not necessarily mean that it will influence environmental action. A possible explanation is that the individual does not perceive such environmental knowledge as relevant to the type of behaviour in question (Haron *et al*, 2005:428). Task knowledge, which links a general awareness and understanding of environmental issues to specific behaviours, is thus highlighted.

2.3.2 Task knowledge related to environmentally friendly consumption

Having general knowledge and awareness of environmental issues is not always enough. Even if consumers have general knowledge, they do not always know what to do with it (Joergens, 2006:366) and may lack sufficient task knowledge. Task knowledge encompasses the notion of incorporating environmental issues into the selection and evaluation of products and "is concerned with the acts that have to be performed to attain certain goals" (Thøgersen, 1994:157). Task knowledge can thus be defined as the relevant knowledge related to the intended action. If task knowledge is insufficient, it can lead to non-participation in certain behaviour (Thøgersen, 1994:156).

In terms of this study, task knowledge could be viewed as knowledge pertaining to the environmental impact of apparel products. According to Wagner (2003:24), "… ideally, a green consumer should assess the environmental friendliness of a product on the basis of a 'cradle-to-grave' analysis…" A cradle-to-grave approach or life cycle analysis (LCA) as discussed in **Chapter 1**, comprises an

understanding of the energy and the type and quantity of materials used for the production, packaging, transportation and distribution of a product as well as its subsequent consumption and eventual disposal (Wagner, 2003:25-26). Unfortunately, this type of information is not always readily available.

The type of information given to consumers is therefore crucial in changing behaviours (Thøgersen, 1994:159). Consumers also need to be convinced that their individual behaviour can indeed bring about change. Often consumers may possess the relevant knowledge, but they may believe that their individual environmentally friendly consumption choices do not have any real influence. This might be because they believe that they do not have control over retailers' product offering (Ebreo *et al*, 1999:131). Consequently, it is important for consumers to understand what effect their apparel choices will have on the environment, other people and future generations (Pantzar *et al*, 2005:2), and that their individual behaviour could lead to pro-environmental implications.

2.3.4 Importance of relevant environmental knowledge

From all of the above, it can be seen that consumers need to be educated to comprehend the impact their product decision has on the environment and they also need relevant knowledge on environmentally friendly production methods of apparel products (D'Souza, Taghian & Lamb, 2006:164) to enable them to make better consumption decisions regarding apparel. When consumers have this understanding and relevant knowledge, awareness levels will increase and this could possibly be translated into more environmentally friendly behaviour (D'Souza *et al*, 2006:165). By improving environmental knowledge, consumers' behaviours can be modified to be more pro-environmental.

Consequently, it is important to provide relevant information to consumers regarding the apparel product for them to make informed decisions, as

knowledge is a prerequisite to buying behaviour and influences every stage of the consumer buying decision process (Swinker & Hines, 2006:222; Laroche *et al*, 2001:505; Straughan & Roberts, 1999:562; Martin & Simintrias, 1995:16). When consumers possess information regarding environmentally friendly apparel, they may start to actively purchase environmentally friendly products – as various studies suggest (Haron *et al*, 2005:438; Straughan & Roberts, 1999:569; Brown & Wahlers, 1998:40). Various information sources can be utilised to enable this.

2.4 INFORMATION SOURCES

An information search encompasses the mental and physical activities undertaken to gather information about certain products (Cant *et al*, 2006:118). Consumers use different sources of information at different stages of the decision-making process (Sproles & Burns, 1994:264). Consumers search for information to help them learn about and gather knowledge of products or brands, stores, trading centres, prices, the terms of the sale and consumer service (Cant *et al*, 2006:197). The information chosen is that which is most in keeping with consumers' wants and which is most likely to correspond with their views, beliefs, personality and attitudes (Cant *et al*, 2006:197, Du Plessis & Rousseau, 2003:118). In terms of the apparel decision-making process, different information sources are used at the different stages of the model; for example, according to Sproles and Burns (1994:264), mass media is the most important source of information in the awareness stage and also plays a role in the interest stage, while personal communications from peers or family are more important in the evaluation of alternatives (Sproles & Burns, 1994:264).

Information may be obtained from a number of different sources (Swinker & Hines, 2006:218). Due to consumers being faced with time and knowledge

constraints, they use cues and signals to base their decisions on (Norum, 2005:143). A study conducted by Davis in Solomon and Rabolt (2004:357) found that subjects disregarded approximately half of the available information before making the decision. Controlling the information flow can help consumers match their preferences, improve their memory and knowledge about the domain they are examining and be more confident in their judgements (Solomon & Rabolt, 2004:357). Consumers may not be aware of the environmental implications of apparel products, but by providing consumers with relevant, well-directed information, they will be enabled to make more informed choices (Laroche *et al*, 2001:503-520; Davis, 1993:19).

The literature generally distinguishes three main categories of information sources. Information sources can be defined as the different methods used to communicate messages or information to consumers (Solomon & Rabolt, 2004:322). The three main categories of information sources are marketing and media, product and labelling, and interpersonal sources (Solomon & Rabolt, 2004:365; Sproles & Burns, 1994:197-200, 267-273; Huddleston, Ford & Bickle, 1993:26; Eckman, Damhorst & Kadolph, 1990:13; Beal & Rogers, 1957:630-632).

2.4.1 Marketing and media

The first category of information sources for consumers is marketing and media. According to Swanson and Everett (1999:217), media refers to “the mass communication organizations whose function is to provide information or entertainment to an audience of subscribers, viewers, or readers while furnishing advertisers an environment to reach the audience with print and/or broadcast messages.” Marketing and media therefore includes television advertisements and programmes, magazines, newspapers and radio (Solomon & Rabolt, 2004:365; Sproles & Burns, 1994:246; Huddleston *et al*, 1993:26; Eckman *et al*,

1990:13; Beal & Rogers, 1957:630-632). Marketers or retailers usually control this information (Sproles & Burns, 1994:246, 250).

In Malaysia, where the government has started educating citizens about sustainable consumption practices using various forms of information sources, respondents from a study by Haron *et al* (2005:427) stated that their main source of environmental information was newspapers, followed by television and radio. In a different study by Mainieri, Barnett, Valdero, Unipan and Oskamp (1997:197), respondents also indicated that the above sources were their main sources of environmental information. Contrary to the above, Joergens (2006:363) found that participants had poor awareness levels and suggested that the reason can be attributed to little or no media coverage of the topic.

Although evidence is somewhat inconclusive regarding the influence of marketing and media in consumers' selection of apparel, it is still regarded as an effective form of communicating information in reaching fashion change agents (Sproles & Burns, 1994:253). Fashion change agents refer to the early adopters of clothing, or fashion opinion leaders. Fashion leaders try to distinguish themselves from the group and therefore try new fashions first (Solomon & Rabolt, 2004:416-417). They also tend to seek information and read popular fashion publications (Solomon & Rabolt, 2004:415). Sproles and Burns (1994:254) suggest that fashion leaders are more exposed to marketing and media information sources. It is thus argued that if environmentally friendly apparel is marketed through this channel, fashion leaders may adopt the apparel and can then pass on information regarding the suitability of such garments through interpersonal communication (Sproles & Burns, 1994:254). Marketing and media can therefore be seen as powerful tools to communicate a message about fashion styles, brand names and other product-related information (Sproles & Burns, 1994:253), and also form a basis for another type of information source, namely interpersonal communication.

2.4.2 Product and labelling information

The second category of information sources is product labelling and in-store information. Perceptions about products are to a certain extent formed by exposure to advertising in stores and/or information on product labels (including environmental labels), and can therefore be seen as an important marketing tool (D'Souza *et al*, 2006:163; D'Souza, 2004:182). Product and labelling sources include information about the product such as the price, brand name, hangtags and also the characteristics of the product (Solomon & Rabolt, 2004:365; Huddleston *et al*, 1993:26;).

Environmental labels can also assist consumers in identifying environmentally friendly apparel (D'Souza *et al*, 2006:164; Joergens, 2006:369; D'Souza, 2004:183). It is important to note that there are different types of environmental labels, namely eco-labelling, government-mandated labels and self-declarations (D'Souza, 2004:182). While *eco-labels* act as a seal to exhibit that a product is made according to ecologically safe standards, *self-declarations* can be seen as a label containing environmental information pertaining to the apparel product, but may not necessarily be true (Joergens, 2006:369). The benefit of an eco-label therefore is that it is a seal given by a reliable source (Joergens, 2006:369; D'Souza, 2004:182). However, most eco-labelling schemes are voluntary and are operated by third party organisations (Goggin, 1994:460). While eco-label schemes are available in various countires, currently no such scheme has been developed for South Africa (Barclay, 2007:76).

From the above, it seems that labelling information can be useful in marketing environmentally friendly apparel. However, in the literature some authors question the effectiveness of labels as a substantial segment of consumers seldom read labels when shopping for clothing (Joergens, 2006:369; Iwanow, McEachern & Jeffrey, 2005:382). According to D'Souza (2004:180) few studies have actually investigated environmentally friendly labelling strategies and

therefore limited information exists on how environmentally friendly labels will affect consumers' buying decisions (D'Souza, 2004:180). Although limited understanding exists about environmental labels, it can still be considered an important marketing tool; information given thus must be understandable and relevant for consumers to understand and benefit from it (D'Souza, 2004:183).

2.4.3 Interpersonal information sources

The last category of information sources is interpersonal sources. The interpersonal category cannot be controlled by the manufacturers, producers or retailers of products, but is nonetheless a very important information source. This category includes friends, family and salespeople (Solomon & Rabolt, 2004:365; Sproles & Burns, 1994:197-200, 267-273; Huddleston *et al*, 1993:26; Eckman *et al*, 1990:13; Beal & Rogers, 1957:630-632;). Consumers tend to want to comply with certain social norms. Attitudes and beliefs are often based on these norms. Peers are an important source of information for individuals about how to comply with the norms (Thøgersen, 1994:149-150). Minton and Rose (1997:45) suggest that policy makers should encourage people to talk to their peers about environmentally friendly behaviours. Fashion opinion leaders, who can influence decisions of other people, can play an important role in consumers' accepting and actively buying environmentally friendly apparel (Huddleston *et al*, 1993:26).

According to Sproles and Burns (1994:254), a large part of the population is not exposed to fashion-oriented marketing and media. In such cases, information can only be passed on through interpersonal communication. Interpersonal communication as a source of information can be very persuasive as the credibility of the person giving the information can immediately be assessed (Sproles & Burns, 1994:256). This means the information communicated can either immediately be discarded or it could lead to a change in apparel purchasing behaviour. The credibility of this interpersonal information sources

also makes this type of information source more effective as the friends, neighbours and family of a consumer are perceived to have nothing to gain from providing wrong information (Schiffman & Kanuk, 2007:281).

2.4.4 Information sources and the consumer decision-making process

According to Sproles and Burns (1994:274), consumers develop different information seeking patterns. Five types of information seekers were identified, namely print-oriented, audio-visually oriented, store-intensive, professional advice and pal-advice. Each of these different types will use information sources in a different way and certain information sources will be more efficient to the different types of searchers. Consumers will also use different types of information sources to varying degrees in their lifetime. (Schaefer, Parker & Hermans, 2009:542-543). Consumers may also receive information through many different sources without knowing it. Information is communicated through so many channels that consumers may receive the information, but ignore it (Sproles & Burns, 1994:248).

Even if consumers obtain information from all of the above sources and do not ignore it, they still have to be convinced that their behaviour will be effective in helping the environment; therefore all marketing information needs to be linked to the beneficial outcomes that certain behaviour has (Straughan & Roberts, 1999:568). Also, educating consumers on environmental issues is not the sole responsibility of marketers, as governments need to educate the public as well. Only when consumers are educated and environmental concerns are raised, can they become an environmentally conscious buying force (Chan, 1999:27).

Based on all of the above, the information sources that were focused on in this study were popular media sources, namely television and magazines, sales personnel, in-store signage and labelling information on the product as well as

peer groups. According to Sproles and Burns (1994:246), fashion is in essence a visual product. Television and magazines were thus chosen, because these sources represent a form of visual communication. Peer groups were chosen because according to Cant *et al* (2006:74), a group's frame of reference guides a consumer in their decision-making. Branding and signage are used by consumers as cues or signals and provide them with the tools to easily identify products, reduce risks and as a means to evaluate quality (Cant *et al*, 2006:237). Labelling is also important as many consumers make the decision to purchase apparel only when they are in the store (Solomon & Rabolt, 2004:447). It is therefore important to explore the role of marketing and media, in-store signage and labelling in consumers' decision-making process to develop effective ways of communicating environmental information to consumers.

2.5 THE CONSUMER DECISION-MAKING PROCESS

The consumer decision-making process is a cognitive process and consists of a sequential and repetitive set of activities (Cant *et al*, 2006:193; Du Plessis & Rousseau, 2003:110). The traditional model's steps are problem recognition, information search, evaluation of alternatives, buying decision and post-purchase behaviour (Cant *et al*, 2006:195; Du Plessis & Rousseau, 2003:114; Taylor & Cosenza, 2002:395-396; Chen-Yu & Kincade, 2001). This traditional model is based on the belief that during the decision-making process consumers incorporate as much information as possible from existing knowledge about a product and then consider the advantages and disadvantages of each alternative, to be able to make a decision which they believe will have a satisfactory outcome (Solomon & Rabolt, 2004:352).

With apparel-buying decisions this process is not always approached in such a rational manner. Usually a fashion object will grab the attention of a consumer and will be evaluated as something that might be purchased immediately. These

fashion purchase decisions verge on impulse buying (Solomon & Rabolt, 2004:352). As Solomon and Rabolt (2004:352) states, “If an item is so exciting and perfect, and perhaps time is limited, there may be no search for alternatives.” The fashion decision-making process usually incorporates the following steps: awareness of a fashion object, interest, evaluation, decision and outcome (Solomon & Rabolt, 2004:353).

For the purposes of this research the decision-making model, adapted from Solomon and Rabolt (2004:352) and Sproles and Burns (1994:264), will consist of the awareness of the fashion object (problem recognition), interest (information search), evaluation of alternatives, decision (buy or reject), and post-buying response.

Relating the consumer decision-making model to environmentally friendly apparel behaviour, Haron *et al* (2005:427) refer to environmentally responsible consumer behaviour, which is consumption activities that benefit, or cause less harm to the environment than alternatives. Therefore environmentally responsible consumer behaviour is choosing apparel products based on their environmental aspects and addressing the environmental aspects in each step of the consumer apparel buying decision-making model.

2.5.1 Awareness and problem recognition

The general decision-making process for purchases usually begins with some form of need recognition (Taylor & Cosenza, 2002:395). Problem recognition can be described as the awareness of the need to change the existing state so as to conform to the desired or ideal state. In other words, it is the awareness that something is absent or lacking from the current state (Cant *et al*, 2006:117; Solomon & Rabolt, 2004:356). Problem recognition can either be in the form of need or opportunity recognition. Opportunity recognition occurs when a

consumer is exposed to different or better quality products. This is usually the case with apparel, as fashion trends are continually changing (Solomon & Rabolt, 2004:356). Sproles and Burns (1994:204) are of the opinion that there are three ways whereby awareness of fashion can take place. These are awareness of body-related elements, such as skin colour or body type, clothing-related elements (for example colour or style of garment), and awareness of clothing on the body.

Consumers become conscious of a need in different ways, but they might not always be aware of it, until they are exposed to new products. This implies that a consumer might not necessarily want environmentally friendly clothing due to them not being aware of such products. This is important for this study as information sources might alter their awareness of such products. Once a need is recognised and defined, a consumer will most likely move on to the next step of the decision-making process, which is defined as information search (Taylor & Cosenza, 2002:395).

2.5.2 Interest and the search for information

After a consumer has become aware of an apparel product and developed an interest in it, the information search starts. An information search comprises the mental and physical activities undertaken to obtain information about certain products (Cant *et al*, 2006:118). The information search begins with a recollection of past experiences with similar products. According to Schiffman and Kanuk (2007:533), many consumer decisions are based on a combination of a recollection of past experiences and external sources of information. Taylor and Cosenza (2002:396) add that consumers' search for information may either increase or decrease due to a number of factors, including knowledge, experience, risk, time available to make a purchase, number of alternatives available, product attributes, in-store alternatives and personal characteristics of

the shopper. The interpretation of the information is thus based on past experiences, future expectations, and the judgements of these experiences and expectations (Schiffman & Kanuk, 2007:533; Taylor & Cosenza, 2002:396; Beal & Rogers, 1957:631).

In keeping with the above, information can be obtained through a number of different sources such as marketing information or interpersonal sources. This forms an important input in terms of the consumer decision-making system. With regard to fashion, however, an information search can occur about a number of different clothing attributes or properties, which are then evaluated. However, information does not always translate into a purchase decision (Joergens, 2006:366). As an example, even if consumers have information about environmentally friendly apparel, there may not be environmentally friendly apparel available that is suitable to their needs.

Relating back to the environmental aspect of this study, Yam-Tang and Chan (1998:361) claim that only being aware of the environmental impact of actions, does not necessarily mean that consumers will act more favourable to the environment. As this study focuses on how information influences the buying decision, the search for information is a very important concept. After the consumers' search for information, the alternative product options are evaluated.

2.5.3 Evaluation of alternatives

Evaluation of alternatives is the process whereby the consumer analyses the product's ability to fulfil or provide the desired or expected benefits (Fiore & Kimle, 1997). It is also the act of identifying other possible solutions to a problem and assessing the advantages and disadvantages of each (Cant *et al*, 2006:119). Consumers compare and assess product features according to pre-established

criteria (Cant *et al*, 2006:119). The criteria used to assess the alternatives are obtained from various information sources (as discussed earlier).

Alternatives actively considered during a consumer's selection process are called the evoked set. This is quite a small number of products, usually only between three and seven. This evoked set is composed of products previously evaluated or utilised, as well as those prominent in the retail environment (May-Plumlee & Little, 2006; Sproles & Burns, 1994). It is important to note that the alternatives evaluated are only those that are available. Ebreo *et al* (1999:113) supports this statement by saying that "shopping behaviour can only be changed to the extent that environmentally responsible alternatives are made available in the market". According to Joergens' (2006:364) study, participants complained about the unavailability of environmentally friendly products. It is therefore important that products that could fulfil consumers' needs, are available to them.

The criteria used for the evaluation of alternatives are the standards, characteristics or specifications used by consumers to compare products and brands. The criteria do sometimes change depending on the situation or surrounding environment. The evaluative criteria also differ between people and across cultures, and it is important to know what consumers view as important in an effort to satisfy their needs (Cant *et al*, 2006:119; Solomon & Rabolt, 2004:365; Taylor & Cosenza, 2002:396; Zhang *et al*, 2002).

2.5.3.1 Apparel product attributes

When evaluating apparel products, consumers use a product's properties or attributes as criteria (Chen-Yu & Kincade, 2001). In general, product attributes are divided into two main categories, namely intrinsic and extrinsic. These categories are further divided into subgroups, as illustrated in Table 1 (May-Plumlee & Little, 2006; Kadolph & Langford, 2002; Zhang *et al*, 2002; Brown & Rice, 2001; Eckman *et al*, 1990). These attributes are also used in the evaluation

of the quality of an apparel product by consumers (Fiore & Damhorst, 1992:175). However, quality is evaluated subjectively by consumers (Fiore & Damhorst, 1992:175) and what is important to one consumer, may not be important to the next.

TABLE 2.1: APPAREL PRODUCT ATTRIBUTES (adapted from May-Plumlee & Little, 2006; Kadolph & Langford, 2002; Zhang *et al*, 2002; Brown & Rice, 2001; Eckman *et al*, 1990).

Intrinsic attributes	**Extrinsic attributes**
Physical: ▪ Design ▪ Fabric ▪ Construction ▪ Finishes	Price Country of origin
Performance: ▪ Aesthetics: ○ Fashion ○ Colour ○ Shape ○ Appearance ▪ Functionality: ○ Fit ○ Care ○ Comfort ○ Durability	**Image** ▪ Brand ▪ Label ▪ Corporate social responsibility

Most of the properties in the above table are integrated in any apparel product. Consumers use many of the above attributes to make their apparel selection and the environmental attributes are not always considered (Ebreo *et al*, 1999:115). The intrinsic and extrinsic attributes will be discussed in brief below.

2.5.3.2 Intrinsic attributes

The intrinsic attributes refer to the tangible elements of the garment and can either be the physical product or the performance of the product, which can

further be divided into aesthetic performance or functionality of the product. As can be seen from the above table, the physical product and the performance of the product are further divided into various attributes, such as fabric, design and comfort.

The physical attributes of a product refer to the product itself, including the construction, design, fabric and finishes used (Eckman *et al*, 1990). The environmental impact of the garment should already be considered before the garment is assembled and should ideally form part of the initial design of the product. The ideal goal is to design a product that not only meets customer requirements, but also minimises the environmental impact that the product has during its life cycle (Barclay, 2007:39).

Incorporating the amount of waste a garment will generate or relinquishing certain finishes, such as an acid wash, at the design stage can already reduce a product's environmental impact drastically. Also, by creating surface features such as stitch detail or trims using cut-off fabric, waste can be reduced through using leftover fabric and using less harmful dyes by forgoing printing. The choice of fabric in the design stage can also reduce the negative environmental impact apparel has. The choice of fabric for an apparel product is probably most often linked to the environmental impact it has (Dickson *et al*, 2009:261), and the type of fabric or textile chosen will have a significant impact on the environment, either positive or negative (Breds *et al*, 2002:44). By using a more environmentally friendly fabric the garment automatically becomes more positive in terms of the environment. Construction of a garment also has an effect on the environment. Through constructing more durable garments that last longer, environmental impact can be reduced – even if it is only relevant at the disposal step of the product life cycle. By increasing the durability of a garment and making an apparel item that lasts longer, the consumer will be less likely to replace the item quickly.

Aesthetics refers to the way a product satisfies a customer's needs in terms of colour, appearance, fashion and shape (Kadolph, 1998:27). Colour is the only aesthetic attribute having a direct impact on the environment, as some dyes are better for the environment than others. The other performance attributes are not necessarily dependent on the environment and could hold more appeal for the consumer. Aesthetics integrate the factors that deal with a customer's perception of a product (Kadolph, 1998:28); it is therefore important that the garment is aesthetically pleasing to the consumer. The results of a study by Swinker and Hines (2006:221) emphasise this, the results suggested that consumers do not consider garments as high quality unless it is a popular style that meets their performance criteria. Empirical findings seem to suggest that environmentally related issues are not high-ranking factors for consumers (Shrum *et al*, 1995:72; Yam-Tang & Chan, 1998:361). Iwanow *et al* (2005:383) and Yam-Tang and Chan (1998:361) declare that consumers are motivated by self-interest rather that environmental issues. Joergens (2006:363) echoes these results and states that performance attributes, e.g. aesthetics, are more important to consumers than those which have implications for the environment

2.5.3.3 Extrinsic attributes

Extrinsic attributes refer to all the non-tangible elements of an apparel product and include price, country of origin and the image of the product. One of the basic marketing principles is to provide the right product at the right price at a place convenient to the consumer (Du Plessis & Rousseau, 2003:11). If the price is right, consumers will buy the product and this is applicable to all types of apparel including environmentally friendly apparel. On the other hand, consumers might have the perception that environmentally friendly apparel is more expensive than non-environmentally friendly apparel, which might counteract any intention of acquiring more pro-environmental options.

Image refers to the company, the brand and the label of a product. The apparel manufacturer might not yet have switched to cleaner production processes, but could, for example, support the community or an environmental group, in an effort to enhance the company's social responsibility initiatives (Kadolph & Langford, 2002; Brown & Rice, 2001). According to Iwanow *et al* (2005:372), retailers need to demonstrate their role as "citizens" to their customers. One method for retailers to illustrate their social responsibility and ethical standards is through their codes of conduct. Codes of conduct are defined in Iwanow *et al* (2005:373) as "prescribed principles and regulations, based on beliefs of right and wrong, which an organisation can use to help make appropriate decisions with regard to the interests of their stakeholders". It is also important to note that codes of conduct are usually voluntary, created and implemented by the companies themselves, and do not have any external verification or validation (Iwanow *et al*, 2005:373).

2.5.3.4 Apparel product attributes and the environment

Consumers tend to have their own pre-established criteria based on existing knowledge, which influence their selection of products. These consumers use a product's attributes to evaluate the product and each consumer deems certain attributes to be more important than others. Yet, even apparel experts are said to find it difficult in some instances to visually assess physical attributes in a more accurate manner when making a purchase decision (Chen-Yu & Kincade, 2001:33), and therefore it is important to provide the consumer with relevant and true product information regarding the environment, as consumers use cues such as price or brand name to evaluate clothing quality (Swinker & Hines, 2006:221; Norum, 2005:143;).

2.5.4 Response

The next step in the consumer decision-making process is the response, which is the way in which consumers react to a cue (Schiffman & Kanuk, 2007:199). A consumer will cognitively interpret the inputs (information and knowledge) and then make a decision. The consumer either decides to purchase or not to purchase a product. The response a consumer makes depends largely on previous learning and how previous responses were reinforced (Schiffman & Kanuk, 2007:199).

2.5.5 Post-buying response

Consumers buy products and goods in order to fulfil needs and seek greater satisfaction. After a purchase is made, the consumer evaluates the product again. There are three possible outcomes to this evaluation. The product can either match the consumer's expectation, it can exceed the consumer's expectations of that product or the consumer's expectations may not have been met (Schiffman & Kanuk, 2007:547). The post-buying response is an important concept in the consumer's learning process. Post-buying learning means that after acquiring a product the consumer discovers details and extra information about it, stores the knowledge in their long-term memory, modifies the relevant attitudes and is ready for the next decision process with an improved understanding of the product (Cant *et al*, 2006:121).

Feedback occurs in a systems approach, as the information obtained from the decision process will be used as an input in future decision-making, as discussed earlier. Because learning occurs from past behaviour, future behaviour will be affected (Abdul-Muhmin, 2006:238). When certain behaviours are repeated over and over, a habit forms and the influence that the habit has on behaviour is later

independent of intentions (Thøgersen, 1994:148). Established habits may thus be a reason why intentions are not always translated into actions (Thøgersen, 1994:154). However, if learning occurs, a change may take place as beliefs are adjusted (Thøgersen, 1994:148) and consumers become more comfortable in performing certain activities (Ebreo *et al*, 1999:113).

2.6 CONCLUSION

In this chapter an overview is provided about the main concepts used in this study, which include environmentally friendly apparel, environmental knowledge, information sources, as well as the consumer buying decision-making process. The consumer decision-making process is a cognitive process and consists of a sequential and repetitive set of activities (Cant *et al*, 2006:193; Du Plessis & Rousseau, 2003:110). For the purposes of this research the decision-making model, adapted from Solomon and Rabolt (2004:352) and Sproles and Burns (1994:264), consists of the awareness of the fashion object (problem recognition), interest (information search), evaluation of alternatives, decision (buy or reject), and post-buying response. The broad opinion discussed in this chapter relates to the need for consumers to be educated on how their apparel product decisions impacts on the environment. By improving consumers' knowledge, their behaviours may possible change to be more pro-environmental. In order for knowledge to be increased, relevant information must be provided or increased.

In the next chapter, the system approach is discussed as a suitable framework to study the role that exposure to information sources and environmental knowledge has on the consumer's buying decision-making process. The systems approach consists of three stages, namely input, transformation and output. This study looks at the consumer decision-making process as the main system in the study. Information sources and knowledge were considered to be the inputs in

this study, whereas the cognitive interpretation is the transformation step, and the final purchase decision is considered the outcome.

CHAPTER 3

THE SYSTEMS APPROACH

3.1 INTRODUCTION

This chapter discusses the theoretical perspective, which will be used to guide the study. The systems approach has previously been applied to a wide variety of subjects and disciplines (Whitchurch & Constantine, 1993:327; Spears & Vader, 1985:23). Spears and Gregoire (2003:2) define a system as a "collection of interrelated parts or subsystems unified by design to obtain one or more objectives". The systems approach enables consumer decision-making to be understood within the broader context of the environment as an interconnected relationship exists between these aspects (McGregor, 1998b:36; Whitchurch & Constantine, 1993:332). This chapter will highlight the basic principles and assumptions underlying a systems approach as well as the implications it has on this study.

3.2 SYSTEMS THEORY

Some events are better explained when it is interpreted as a system (Von Bertalanffy as quoted by Whitchurch & Constantine, 1993:326). A system is a set of objects connected to each other as well as to the surrounding environment. The notion that objects and the surrounding environment are interdependent forms the basis of general systems theory (Whitchurch & Constantine, 1993:325; Spears & Vader, 1985:23).

3.2.1 The basic systems model

According to Spears and Vader (1985:25), the systems approach "focuses on interactions and interrelationships of components" in the system, which are designed to reach a certain goal. The basic model of a system can be seen in Figure 3.1. The major steps of a system are inputs, transformation and output.

FIGURE 3.1: BASIC SYSTEMS MODEL
(Spears & Gregoire, 2003:2; Spears & Vader, 1985:26)

The input phase of a system includes all the operational, physical or human resources needed to achieve the preset goals or objectives of the system (Spears & Gregoire, 2003:2; Spears & Vader, 1985:26). The inputs will impact the transformation and the output of the system process and are therefore a very important part of the system.

The second part of the basic systems model is transformation. The original resources or inputs are transformed or changed into outputs in this step (Spears & Gregoire, 2003:2; Spears & Vader, 1985:26). The result of the transformation step is termed the outcome and is the last phase in the basic system. When a system reaches the outcome, it also indicates that the system has completed or reached its goals (Spears & Gregoire, 2003:2; Spears & Vader, 1985:26).

An additional element, called feedback, may be introduced. Feedback is the information received by the system, either internally or from the external environment, about the outcome of the system. This allows the system to adjust according to changes (Spears & Vader, 1985:26). In terms of the consumer buying decision-making process, after a purchase is made, the consumer

evaluates the product again. The post-buying response is an important concept in the consumer learning process as a consumer discovers details and extra information about a product, stores the knowledge in their long-term memory, modifies the relevant attitudes and is ready for the next decision process with an improved understanding of the product (Cant *et al*, 2006:121). As stated previously, because learning occurs from past behaviour, future behaviour will be affected (Abdul-Muhmin, 2006:238) and thus represents an important feedback loop.

In terms of this study the inputs may be viewed as the influences on the consumer apparel buying decision-making process, which include environmental knowledge and information derived from various external sources. While the consumer apparel buying decision-making process is a system in itself, the cognitive interpretation and evaluation will be seen as the transformation phase in the systems model. The final purchase decision will be the outcome. Figure 3.2 presents the inputs, transformation and output phases in terms of this study.

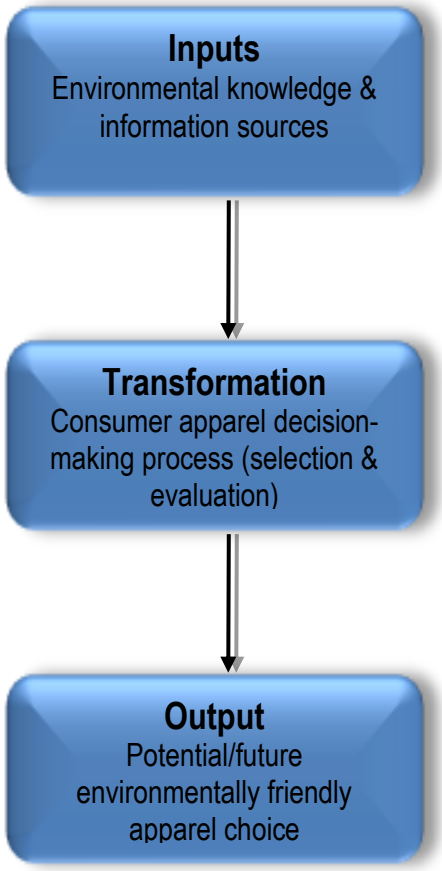


FIGURE 3.2: SYSTEMS MODEL IN TERMS OF ENVIRONMENTALLY FRIENDLY APPAREL CONSUMER DECISION-MAKING

3.2.2 The core assumptions of a systems approach

The systems approach has certain core assumptions, which include the following: isomorphism, holism and the self-reflexivity of human systems.

Isomorphism is "the equivalence of form" (Whitchurch & Constantine, 1993:328). According to Whitchurch and Constantine (1993:328), this means that the elements and relationships can be replaced in another system by their corresponding counterpart in that system. The elements in a system are for that reason isomorphic. All systems will have inputs, a transformation process and

outcomes. It can therefore be said that all systems have the same set of laws, according to which it works. This is also true for this study as it incorporates a system with inputs in the form of environmental knowledge and information sources, a transformation system, namely the consumer buying decision-making process, and an outcome which will be the choice to purchase or not to purchase environmentally friendly apparel.

The second core assumption of systems theory is that of **holism**. Holism is the notion that a system and their components must be seen as a whole (Whitchurch & Constantine, 1993:328). All the components of a system are related to each other in a certain way. These components interact with each other, and some of the components can only form through interaction between the different components (Whitchurch & Constantine, 1993:329). The system therefore needs to be viewed as a whole to understand the roles and importance of the different components (Whitchurch & Constantine, 1993:328). In terms of this study, the whole consumer buying decision-making model is seen as a whole and the links between knowledge and information sources to the process and ultimate outcome is investigated.

What sets human and other systems apart are the **self-reflexivity of human systems**. This means that humans can make themselves the object of a system and study it (Whitchurch & Constantine, 1993:329). According to Whitchurch and Constantine (1993:329), this is also how humans are able to set goals for themselves, which may include acting in a more environmentally responsible manner. Learning can be seen as the self-reflexivity of human systems as they reflect, consciously or subconsciously, on the decision or response they just made/had to a certain cue, and in future will either act in the same way or differently based on the preceding experience (Schiffman & Kanuk, 2007:199-200). It can therefore be said that, if a consumer had a negative experience with a certain brand or label, this might influence future purchasing decisions of the particular product. In terms of environmentally friendly apparel, this can be very

important as the learning that occurs from buying and wearing environmentally friendly apparel may lead to more purchases of environmentally friendly apparel.

3.3 THE CHARACTERISTICS OF A SYSTEMS APPROACH

The systems approach consists of a number of unique characteristics. These characteristics will be discussed briefly below.

Interdependence: Based on the definition of systems theory, it can be seen that there is a relationship of interrelatedness/ interdependence between the components of a system (Whitchurch & Constantine, 1993:332). All the components are held together in the given system and because these components are interdependent on each other, they have a “mutual influence” on each other, or in other words, if something affects one component, it has an effect on all the other components in the system (Whitchurch & Constantine, 1993:332).

In terms of this study it can be explained on the apparel choices consumers make and the influence that has on the environment. The decisions that consumers make will have environmental consequences (positive or negative), which in turn impacts on the future well-being of consumer populations. The decision impacts not only on the environment, but also on other systems, as the above example illustrates.

Hierarchy: Hierarchy refers to the different levels of systems. It is important to remember that systems are part of bigger systems and can be broken down into subsystems, suprasystems or other systems (Whitchurch & Constantine, 1993:332). Because of the “layering” or levels, complexity increases as the number of systems increase.

The decisions consumers make are embedded within the larger context of an external marketing environment (suprasystem), which may promote the pro-environmental implications related to the acquisition of certain products. Simultaneously, the decision-making process also occurs within the boundaries of a consumer's existing cognitive field, which encompasses some understanding regarding environmental issues in relation to all other decision criteria (subsystems).

Permeability of boundaries: Boundaries are essential when following a systems approach as it defines what is included in the system. "The boundary defines the system and represents the interface, or point of contact between the system and other systems" (Whitchurch & Constantine, 1993:333). Factors influencing the system directly from outside are referred to as the environment, but the amount of influence that these factors have on a system depends on the permeability of the system's boundaries (Whitchurch & Constantine, 1993:333). The degree to which information is allowed to enter any given system can be seen as the permeability of its boundaries. One study found that consumers disregard approximately half of the information available to them when making purchasing decisions (Solomon & Rabolt, 2004:218). For this study it is important, as even if consumers possess the relevant knowledge, they may not use it in their purchasing decision. Other influences into the consumer apparel decision-making model in this study may be the other clothing attributes that consumers deem important. External factors such as price and availability may also influence a consumer to make certain buying decisions (Schiffman & Kanuk, 2007:199).

Equifinality: The same goal can sometimes be achieved by following different methods. This principle is called equifinality (Whitchurch & Constantine, 1993:333). In this study, even if two consumers have the same inputs (information and knowledge), the transformation process may differ between them, as they may use the inputs differently to achieve the same outcome. As an

example, one consumer may choose to buy environmentally friendly apparel based on his/her true concern for the environment, whereas another may simply buy such apparel based on the aesthetic styling and price thereof.

In terms of this study, even if the information or level of environmental knowledge changed, the transformation process may change, but the consumer will still make a buying decision. According to Schiffman and Kanuk (2007:541), every consumer makes a decision differently as it depends on their cognition and what they believe to be correct (Du Plessis & Rousseau, 2003:263). A number of studies (Mainieri *et al*, 1997:193-200; Rousseau & Venter, 2001:2) show that even if consumers express positive feelings towards the environment they do not always act in this way, opting for an alternative product. Also, certain consumers will deem other inputs to the system more important than the two studied here.

3.4 IMPLICATIONS FOR THIS STUDY

The systems approach was chosen as it relates to the effects and outcomes consumers' buying behaviour has. The systems approach enables consumer apparel buying decision-making to be understood within the broader context of the environment. The impact of consumption and the choice of apparel are viewed in relation to the impact it has on the environment, as a relationship of interconnectedness exists between these aspects (McGregor, 1998b: 36; Whitchurch & Constantine, 1993:332).

In a systems approach the inputs influences the transformation process and the outcome of the system; therefore, if the inputs of the consumer buying decision-making process change, the outcome will change. The goal is to encourage consumers to become more concerned about the environmental and social impact of their consumption choices, including those pertaining to the apparel they wear (Erasmus *et al*, 2001:119). Consumers' choice of apparel products has

implications, both within the local context and abroad (Erasmus *et al*, 2001:117; McGregor, 1998a: 111). By changing the inputs, i.e. educating and informing consumers how their consumption decisions affect the environment, the consumer's approach to the apparel buying decision process can be changed.

The systems approach forms the basis of the model or conceptual framework depicted in Figure 3.3, as systems theory can be used to build concepts and principles across various domains. While the systems approach have been widely used with huge success in food service studies, the systems approach still offers a suitable perspective from which to conduct this study as it allows the consumer decision-making model to be seen as a system.

3.5 CONCEPTUAL FRAMEWORK

The following conceptual framework (Figure 3.3) was developed for the study based on the literature and systems approach. Consumer decision-making models from Schiffman and Kanuk (2007:531), Solomon and Rabolt (2004:352) as well as Sproles and Burns (1994:246-260) were adapted and incorporated to develop the final conceptual framework to direct the study.

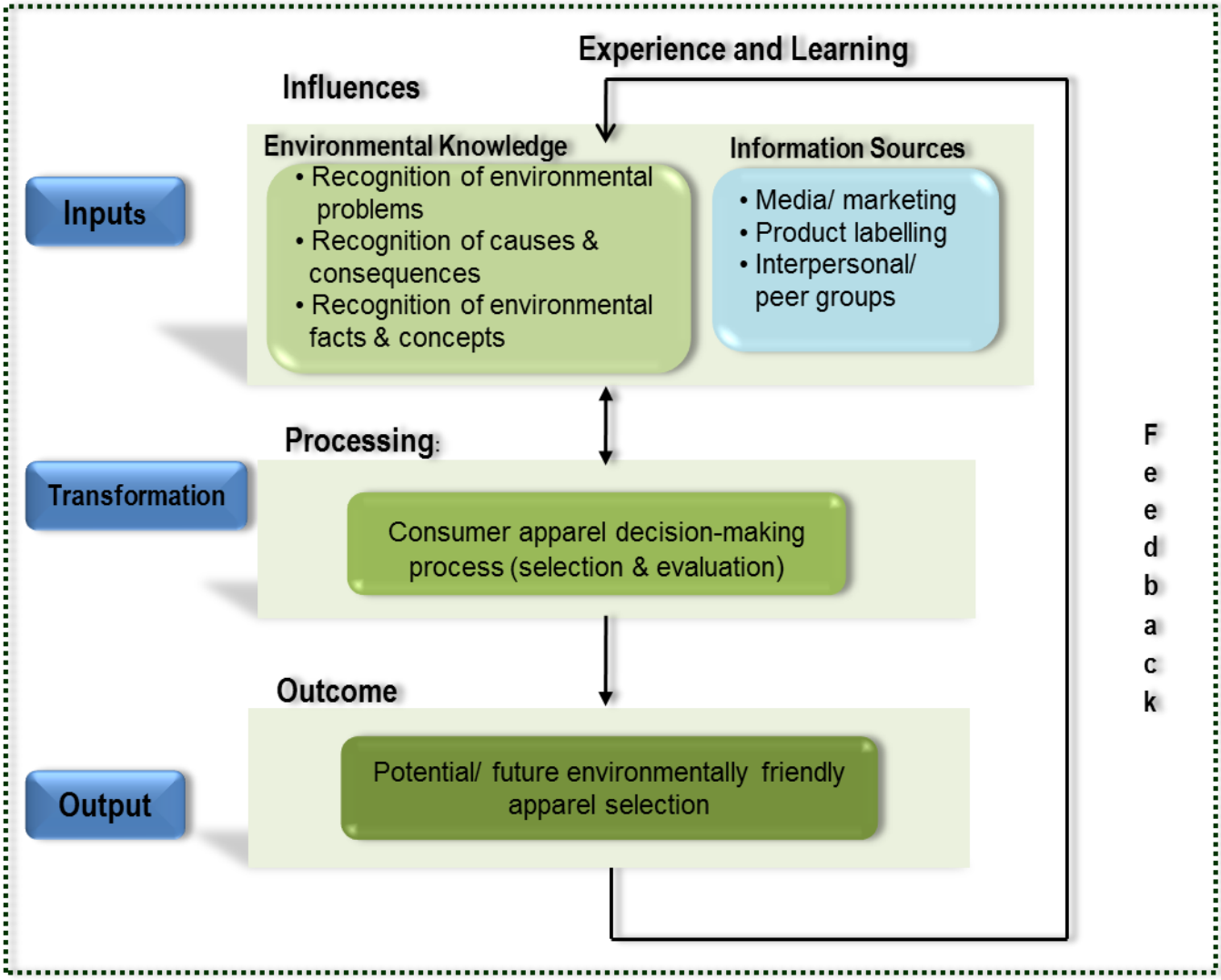


FIGURE 3.3: CONCEPTUAL FRAMEWORK: A CONSUMER DECISION-MAKING MODEL

(Adapted from Schiffman & Kanuk, 2007:531; Solomon & Rabolt, 2004:352; Sproles & Burns, 1994:246-260)

In a systems approach, objects are viewed as interrelated and connected to one another (Whitchurch & Constantine, 1993:325). In terms of this study, the main system will be the consumer decision-making process, in which environmental knowledge and information are considered inputs, the cognitive interpretation will be the transformation step, and the outcome will be considered the final

purchasing decision. Cognition refers to the knowledge and perceptions of an individual, which are obtained through experience or other sources of information (Du Plessis & Rousseau, 2003:262). According to Wagner (2003:2), cognition refers to "knowledge and intelligence, to understanding and learning". When following a cognitive approach, decision-making behaviour and the processing of information are observed (Wagner, 2003:15).

The conceptual framework depicts how environmental knowledge and information sources are inputs or influences in the consumer apparel decision-making process. Environmental knowledge refers to the ability to recognise environmental problems, recognising the causes and consequences of environmental problems as well as the facts and notions necessary to explain these concepts (Haron *et al*, 2005:429). Three types of information sources are distinguished, namely media and marketing, product labelling and interpersonal or peer group information. These inputs influence the decision-making process where transformation occurs. The consumer cognitively interprets all the informational inputs obtained and reaches a decision based. The final outcome would be the choice to either purchase or not to purchase environmentally friendly apparel.

Another part of a system is the feedback loop. Consumers will gain experience and learn from their apparel purchasing decisions and this forms an input in future decision processes. If a consumer learned from a previous purchasing decision about environmentally friendly apparel, that information will hopefully assist her in making better choices in future regarding the environmental aspects of clothing.

In summary, the framework depicts consumer decision-making as a system with inputs, a transformation process and an output. Based on the review of the relevant literature, environmental knowledge and information represent important inputs in the consumer decision-making process. Transformation occurs during

the decision-making process when the consumer cognitively interprets all the informational input obtained and reaches a decision based on such information. The outcome of this process, namely the decision to buy or not to buy an environmentally friendly product, will consequently result in learning and will be fed back into the system as an input to future decision-making.

3.6 CONCLUSION

This chapter explained and discussed systems theory and the suitability of the theory as framework for this study. The systems approach provided a way for consumer decision making to be understood within the broader context of the environment. The basic principles and assumptions underlying a systems approach as well as the implications it has on this study was discussed. From this a conceptual framework was developed in which environmental knowledge and information sources are considered to be the inputs, the consumer decision making process as the transformation step and the decision to purchase or not to purchase are the outcome of the system.

The next chapter provides a detailed description of the research methodology. The research design, unit of analysis, sampling procedures, data collection methods and analysis of the data are discussed and evaluated. Measures taken to ensure the objectivity and trustworthiness of the study are also highlighted.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

This chapter presents a detailed description of the research methodology followed for the study. The research design and techniques that were used to achieve the research objectives are discussed and justified, and each technique is evaluated. The rationale for using a qualitative research design is explained. The data collection techniques, sampling procedures, selection of participants and data analysis are also explained and discussed. Measures taken to ensure the objectivity and trustworthiness of the study are also specified in the final section of this chapter.

4.2 RESEARCH DESIGN

The limited insight and understanding (Fouché & De Vos, 2005:106) of the role of environmental knowledge and information sources in female consumers' selection of environmentally friendly apparel products initiated a qualitative research design. Qualitative research focuses on the process and is typically used to develop a more comprehensive understanding of a new or unfamiliar situation (Babbie & Mouton, 2001:270). The qualitative research approach was therefore used for this descriptive and exploratory study in order to gain more in-depth insight and an understanding of the issue in question.

Since the study was conducted at one specific point in time as opposed to over an extended time period, the research design is further specified as a cross-sectional study (Babbie & Mouton, 2001:92). This type of study was suitable as

the researcher wanted to understand and describe the current situation regarding the use of environmental knowledge and exposure to information sources in the apparel decision-making process. The goal was not to generalise the findings, but rather to develop an understanding of the issue in its natural setting within the present time frame.

The main purpose of the research was to explore and describe whether environmental knowledge and exposure to information sources about environmental issues are reflected in consumers' selection and evaluation of apparel products. As noted by Walliman (2005:115-116), descriptive research is aimed at behaviour and responses and attempts to examine situations in order to establish the norm and to predict what might happen in future under the same circumstances. In line with the above, this qualitative study typically aimed to understand the events within the context in which it appeared (Babbie & Mouton, 2001:272). The strategy was therefore idiographic or contextual as the study aimed to understand the use of environmental knowledge in a specific context, namely the apparel buying decision. As mentioned above, the goal was not to generalise the findings, but rather to develop an understanding of the events. Moreover, there was no pre-set hypothesis for this study as the researcher worked inductively and tried to describe situations in their natural setting as accurately as possible and to develop theory from this.

4.2.1 Research aim and objectives

Based on the literature review the following research question was formulated for this study: What is the role of environmental knowledge and exposure to information sources in young female consumers' selection and evaluation of apparel products?

This research question initiated the following specific objectives for the study:

Objective 1

To explore and describe the role of environmental knowledge in young female consumers' selection and evaluation of apparel.

Sub-objectives:

- To explore and describe the existing levels of environmental knowledge among young female consumers in terms of:
    - Their ability to recognise environmental problems
    - Their ability to recognise the causes and consequences of environmental problems
    - Their ability to recognise the facts and concepts necessary to explain environmental problems

- To explore and describe the role of environmental knowledge as criteria in young female consumers' s selection of apparel.

Objective 2

To explore and describe the role of exposure to various environmental information sources in young female consumers' selection and evaluation of environmentally friendly apparel.

Sub-objectives:

- To explore and describe the role of popular media information about environmental issues (TV and magazines) on young female consumers' selection of apparel.

- To explore and describe the role of word-of-mouth information by their peer group in young female consumers' selection of apparel.

- To explore and describe the role of in-store information (labels/swing tags) on the young female consumers' selection of apparel.

4.3 POPULATION AND UNIT OF ANALYSIS

The researcher used information obtained from relevant literature to establish criteria for choosing a unit of analysis and selecting a purposeful sample (Babbie & Mouton, 2001:166). The unit of analysis for the study was third- and fourth-year female university students.

The unit of analysis for this study comprised female students, from the University of Johannesburg between the ages of 19 and 22 years. For current purposes, a relatively young student sample was appropriate as they represent future decision-makers in a world that is already faced with major environmental problems and will, therefore, be most affected by long-term environmental deterioration. Furthermore, although evidence pertaining to the value of demographic variables in distinguishing environmentally concerned individuals has been inconsistent (Chitra, 2007:176-178; Fraj & Martinez, 2006; Solomon & Rabolt, 2004:359; Straughan & Roberts, 1999), a study by Zelezny *et al* (2000:443) indicated that females demonstrate stronger environmental attitudes and behaviour than men.

Apparently, young educated females also pursue information on apparel items to a larger extent (Taylor & Cosenza, 2002:393-408; Sproles & Burns, 1994:276). Moreover, South Africa is a predominantly young nation. The so-called "generation Y" (born between 1977 and 1994) represents approximately 64% of the South African population and spends approximately R2 billion[4] per annum. They are described as pragmatic, socially and environmentally aware and open

[4] Approximately $ 245 million / € 191 million

to new experiences (Cant *et al*, 2006:42). In general, younger people are also more willing to accept new products (Cant *et al*, 2006:42; Solomon & Rabolt, 2004:190) and it may therefore be easier to change their purchasing practices.

According to Yavas (1994:36), various authors criticised the use of students as units of analysis for research studies. According to Yavas (1994:36), some studies argued that students are not effective surrogates for other populations and students should not be used as test subjects when generalisability of results is important, while other studies found that there were considerable similarities between students and other populations. A research study performed in Saudi Arabia (Yavas, 1994) found that using students for the purpose of studying certain behavioural processes are appropriate, but it does rely on the specific topic being studied. A student sample was deemed appropriate for this study as students represent future households. These students are already part of a world which is faced with major environmental crises. Taking this into account, students will most likely be affected by environmental deterioration in their later lives.

4.4 SAMPLING

4.4.1 Purposive sampling

Non-probability purposive sampling was used, as the intention was to gain insights about the process rather than to generalise from the findings. When using a non-probable sampling technique, the researcher is unable to guarantee that each element in the population will be represented (Babbie & Mouton, 2001:166; Leedy & Ormrod, 2001:218-219) and therefore findings derived from the sample should not be generalised. Participants were recruited on the basis of age, gender and educational status criteria, as set out in Table 4.1. While Leedy and Ormrod (2001:221) suggest that the larger the sample, the better, a smaller sample was used for this qualitative study and a total of 29 participants took part in this study.

Each focus group consisted of between three to five participants. The decision to use a smaller number of participants in each focus group was intentional as the researcher wanted to gain a more in-depth understanding and smaller groups are preferable for more in-depth discussions (Greeff, 2005:305). Greeff (2005:305) also recommends over-recruiting for each focus group to cover for no-shows. By adopting this approach, the researcher ensured that there were enough participants in each session to make that session viable.

4.4.2 Selection criteria for the unit of analysis

The sample selection took place based on age, gender and educational status. The criteria and justification for the selection of participants are set out in Table 4.1 below.

TABLE 4.1: CRITERIA FOR INCLUSION IN SAMPLE

CRITERIA FOR INCLUSION	JUSTIFICATION
Female	• Tend to have stronger environmental attitudes and behaviour (Zelezny *et al,* 2000:443) • Females make use of most forms of information sources (Sproles & Burns, 1994:255)
Third-/ fourth-year students	• Young, educated females do more information search on apparel (Solomon & Rabolt, 2004:359; Taylor & Cosenza, 2002:393-408; Sproles & Burns, 1994:276) • Represent an important group of future decision-makers.
Studying non-clothing-related subjects	• A clothing background may influence their buying decision process and cause distortion of data
Studying non-environmental-related subjects	• An environmental background may cause distortion of

	data as it may influence decision-making
South African citizens	▪ Study is about a South African perspective and foreign students may have a different background.

4.4.3 Gaining access to the unit of analysis

Access to the participants was gained through a contact known to the researcher, who lived at the University of Johannesburg's residence. This approach was followed in accordance with Babbie and Mouton's (2001:168) recommendation that informants should be typical of the group that will be investigated. The informant was briefed on the criteria that potential participants had to comply with. The informant provided names of potential participants, who were then contacted, informed about the research topic and asked to participate on a voluntary basis. The informant was also made aware that potential participants may ask questions pertaining to the research and that she should refer such questions back to the researcher. Students from the University of Johannesburg were selected. The researcher already had a contact at the university. These students were also residing in a large metropolitan area and therefore the researcher had access to a large population to select participants from.

In order to obtain a broader sample base, recruitment posters were also put up on the individual residences' information boards. While the posters were effective in obtaining potential participants from a wider base, the process was very time-consuming and less successful in recruiting participants who complied with the set criteria. Some of the issues encountered were that the posters first had to be approved by the house committee of each residence. Furthermore, the visibility of the posters was not always effective as the posters competed for attention with other information letters and notices on the information boards. Time had to be allocated for potential candidates to fill in their names and then only could the

researcher contact each person on the list and make sure that the criteria were met, which many did not. In addition to the above, many of those who did comply with the recruitment criteria did not show up for the scheduled research sessions, despite telephonic confirmation of their attendance.

Continued effort, however, ensured that focus groups were formed with the willing participants for data collection purposes. Sessions were scheduled at a time and location that were convenient for most of the participants in the particular focus group session. Data collection continued until no new insights emerged from the focus group discussions (Strydom & Delport, 2005:328). The total sample comprised 29 participants. According to Babbie and Mouton (2001:287), the general rule of thumb for South African master's level studies is to recruit a sample of between five and 25 participants. However, data collection and recruiting continued until no new themes emerged and data saturation was achieved. This resulted in a slightly larger sample size than the recommended rule.

4.5 DATA COLLECTION

To address the research problem in a meta-science context necessitated a multi-phase data-collection approach. Typical qualitative data collection techniques were used in different phases to collect data. Each phase and the different collection techniques used in this study will be further explained in the following section. At this point it is important to note that the use of multiple techniques facilitated triangulation of the study. Triangulation is a means to ensure that a personal bias that may develop from one single method is overcome, and it increases the credibility of the study (Babbie & Mouton, 2001:276-277). Triangulation of method was achieved by using multiple data collection techniques. The different techniques used in this study included an

environmental knowledge essay, a projective technique, garment selection and focus group discussions.

Each session started with a brief introduction by the researcher as well as a summary of the goal of the research. The participants were reminded to be honest throughout and that the information gathered from the sessions would remain confidential. Participants were encouraged to ask questions if they were unsure or if they required further clarification. Based on the objectives of the study, each data collection session was structured according to two phases. Each phase addressed one of the main objectives of the study. The first phase addressed objective 1 and the second phase addressed objective 2. The first phase consisted of the environmental knowledge essay followed by the projective technique. This was done to explore participants' level of environmental knowledge and how it influenced their purchase decisions.

The second phase commenced with the members in each session being exposed to an information source relating to environmental issues pertaining to apparel. The participants were then asked to select a garment, and this was followed by a focus group discussion. The focus group discussion was focused on exploring reasons why the participants made their particular garment choices as well as gain insight into how exposure to the information source might have influenced their decision-making. Each technique will be discussed in depth below.

4.5.1 Piloting research instruments

The research instruments were piloted in the exact manner that the data collection sessions would have been executed. Three sessions with three to four participants were held before the actual data collection sessions. This was done to test the practicality of the different techniques. Participants were asked to complete phase 1, which consisted of the environmental knowledge essay and

projective technique exercise. After they completed phase 1, they were exposed to one of the relevant information sources. Phase 2 commenced with participants making a garment choice and was then followed by the focus group discussion. Afterwards the participants were asked to verbally evaluate the techniques used, problems experienced with the techniques and whether they understood the questions that were asked. Field notes were made in order to overcome the problems or issues before actual data collection started.

Unforeseen problems can emerge and by piloting the research instruments, such problems were identified and eliminated before the main study commenced (Strydom, 2005:210). Some problems were brought to the researcher's attention, and in the main study an effort was made to eliminate these problems. Some aspects which participants brought to light during this phase, could not be addressed, e.g. some of the participants felt that the focus group discussions should be conducted in Afrikaans, but this was not feasible, as it would have alienated participants from other language groups. Not all English speaking students can speak Afrikaans; however, all the Afrikaans-speaking students could understand and speak English, even though it is not their first language. All the subsequent focus group discussions were therefore conducted in English. The decision to conduct the data collection sessions in English also increased the transferability of the study, as it did not exclude certain candidates based on language requirements. Another issue that arouse was the length of the article, and it was somewhat shortened after piloting.

4.5.2 Environmental knowledge essay

The first instrument used in the data collection sessions was the environmental knowledge essay. The environmental knowledge essay was done to explore the level of participants' general environmental knowledge. Originally, a quantitative test was considered based on a measuring instrument used in a Malaysian study

to assess individuals' level of environmental knowledge (Haron *et al*, 2005), but as the main goal of the study was to gain broader insight and understanding, the test was discarded for an essay. An example of the environmental knowledge essay is included in Addendum A.

Participants received a booklet, with ample space for them to write. The participants were reminded that there were no right or wrong answers and that the aim of the research was to gain a general understanding. Each participant was asked to write an essay about their opinions regarding what they considered the major environmental problems currently in South Africa as well as what they considered to be the causes and consequences of these problems. This was based on the definition provided by Haron *et al* (2005:429) of environmental knowledge.

The knowledge essay comprised three opinion-based questions to gain insight into the participants' own opinion regarding the environment. The questions were not leading and the goal was to explore the participants' general environmental knowledge. The knowledge essays worked well as vast amounts of raw data were collected. Neuman and Krueger (2003:273) list some of the advantages of open questions, which include that they permit creativity, self-expression and richness of detail, provide space for new findings and themes to emerge and allow participants to answer in detail and clarify their responses. However, the analysis was time consuming and a quantitative test might have been easier to analyse. Nonetheless, by not asking leading questions to assess their knowledge, a broader range of data was collected and this also eliminated some bias. To date empirical evidence of environmental knowledge, environmental concern and environmentally friendly consumer behaviour (Pickett-Baker & Ozaki, 2008:283-284; Fraj & Martinez, 2006; Haron *et al*, 2005; Chan, 1999; Brown & Wahlers, 1998) has mostly been derived by means of quantitative scale items, a method that does not allow the researcher the opportunity to explore the topic in more depth.

For future research regarding environmental aspects of apparel, it may be beneficial to include further probes regarding the environmental impact of apparel itself rather than just general environmental knowledge, as this will indicate whether or not participants had adequate levels of task-related knowledge. Another recommendation for future studies is to use a larger sample and a quantitative test based on existing quantitative scale items, and the insight gained from such a study to obtain a more generalised viewpoint.

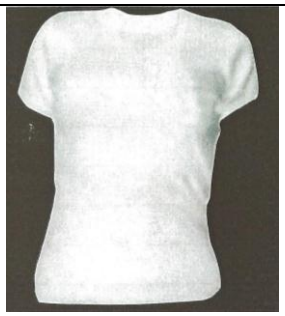
4.5.3 Projective technique

The aim of the projective technique was to explore whether environmental knowledge exerts any influence on participants' typical and everyday apparel purchasing decisions. "Projective techniques are methods of evaluation which give an opportunity for free and frank referral to issues which respondents might not otherwise have committed to paper" (McCartan & Hare, 1997:282). The projective technique was used as the participants might have responded in a way that they perceived was expected from them or, as Babbie and Mouton (2001:238) states, "will make them look good". When answering indirectly they projected their own motives, opinions and attitudes without feeling compelled to respond in a manner that they perceived to be expected from them. The method used in this study encouraged participants to provide answers about why their friend would choose a specific garment.

The projective technique entailed an exercise in which participants were confronted with a hypothetical scenario. The participants were given photo images of three similar shirts as well as the price, fabric content, country of origin and care instructions of each image. The information pertaining to fabric content, country of origin and care instructions was purposefully included to provide some evidence regarding the environmental implications related to each shirt. Each

participant was asked to write down which shirt they thought their friend would select and to motivate the choice. This exercise was done after completing the environmental knowledge essay and before commencing with the information source exposure and garment choice selection. Table 4.2 includes the images and a summary of the information that accompanied each image. The projective technique scenario is included in Addendum B.

TABLE 4.2: INFORMATION PROVIDED ABOUT EACH T-SHIRT

	T-Shirt 1	**T-Shirt 2**	**T-Shirt 3**
			
Price	R95.95 (Approximately $12/€ 8.70)	R99.95 (Approximately $12.50//€ 9.00)	R89.95 (Approximately $11// € 8.10)
Fibre content	100% Cotton	100% Organic cotton	100% Polyester
Manufacturing origin	Not stated	Mauritius	China
Fabric origin	Imported	Imported	Imported
Care instructions	• Luke warm wash • Do not bleach • Warm iron • Dry Cleanable • Do not tumble dry	• Machine washable • Do not bleach • Warm iron • Do not dry clean • Do not tumble dry	• Hand wash • Do not bleach • Do not iron • Do not dry clean • Do not tumble dry

It should be noted that during the second phase of the data collection, (after participants were exposed to a particular source of information), a similar technique to the method described above was used in which participants were asked to select an actual garment. This provided the researcher with a platform from which to explore the influence of information source exposure on participants' apparel decision-making. Actual garment choices and selection criteria after information source exposure could therefore be compared to the outcomes of the projective technique, which was completed before information source exposure.

Projective techniques have not been widely used in research relating to apparel or consumer behaviour. It is thus recommended that the use of such techniques in these types of studies needs to be explored further. For future research regarding apparel, it might be advisable to use actual garments as opposed to images with limited information that could lead or influence the decision in a particular manner. Actual garments allow for tactile evaluation and other criteria, which are typically employed in real life in the evaluation and selection of apparel. Participants will then also be able to discuss all the information they generally use in decision-making and not be limited to the specific information given to them. However, actual garments were used in phase 2 and all aspects regarding apparel were explored during this phase. The reason for using white crew-neck T-shirts in both the projective technique and the garment choice was to explore the reasons for the participants' decision-making regarding a seemingly classic apparel item, which is less impacted by fashion trends and for which preference is perhaps based to a larger extent on the information that was presented to participants, i.e. care instructions, price and so forth. Future studies may thus consider changing the type of garment as some participants indicated that they would not buy a white shirt. A fashion garment may provide other interesting results, although it may prove extremely difficult to find appropriate, comparable items for such a technique to be employed.

4.5.4 Information source exposure

In order to explore the role of information source exposure, different focus groups were shown different information sources. There were two groups (Groups A and E) that were not exposed to any additional information, except for the information on the actual garment, and after each participant made their garment selection the focus group discussion commenced using the themes set out for the discussions.

Two groups of participants (Groups C and F) were asked to watch an informational DVD media clip about the production of jeans in Lesotho and the environmental impact it has. This represents television, which is a marketing and media information source. The DVD media clip used for this study has a running time of approximately 12 minutes. A short media clip was shown instead of a feature length movie due to time and venue constraints. The average feature length movie requires approximately one to two hours viewing time, which is more time than most participants were willing to spend at the sessions, and a different venue would have had to be found for the focus group discussion. A disadvantage of the DVD media clip was that it focused on the production of jeans, whereas participants had to choose from a selection of different T-shirts in the subsequent garment choice exercise. For future research it may be useful to consider a DVD media clip which features the environmental impact of clothing manufacturing in general or of the particular garment used in the garment choice exercise. A short advertisement can also be developed and its efficiency can be tested in future studies.

The subsequent marketing and media information source that was explored is magazines. Two groups of participants (Groups B and H) were asked to read a printed magazine article. The article was taken from British *Vogue*. The article was shortened somewhat after it emerged during piloting of the research instruments that the article was too long. The article is included in Addendum C.

It can be recommended that participants read the article beforehand or that one-on-one interviews are better suited to magazine article evaluation. Not all of the participants read at the same speed and this caused some participants to feel rushed or others to feel bored. The data from one of these groups had to be discarded due to a participant having studied environmental science previously and was seen as an expert by the other participants. Also, the sound quality of the recording was not great and verbatim transcriptions could not be done accurately.

Product labelling was the next information source to which focus groups D and G were exposed. These two groups of participants received information in the form of an additional label on one of the garments that read: “I am eco-friendly”. On the back some extra information was available, although it became apparent that none of the participants seemed to read the additional information.

Table 4.3 summarises which focus group was exposed to what type of information source. The information sources used were discussed in more detail in Chapter 2.

TABLE 4.3: DIFFERENT INFORMATION SOURCE FOCUS GROUPS

INFORMATION SOURCE	GROUP
No Information source	Group A Group E
Marketing and media – television/ DVD	Group C Group F
Marketing and media – printed article	Group B Group H
Product labelling	Group D Group G Group I

The final source of information investigated in this study, namely word of mouth, was investigated and explored during focus group discussions based on participants' prior experiences rather than specific exposure as in the above exercises.

4.5.5 Garment choice exercise

The aim with this exercise was to explore what criteria participants use in general when shopping for apparel. Actual garments were used with the original in-store labelling and this simulated the actual buying decision process.

Participants were required to choose one item from a selection of three garments and to motivate their choice during the group discussion. Three garment options were included in this exercise based on the principle of the evoked set, which refers to the set of alternatives actively considered during a consumer's choice process – usually between three and five (May-Plumlee & Little, 2006; Sproles & Burns, 1994). All the participants had the same selection of garments to choose from. All three garments were basic white crew neck T-shirts, which appeared to be the same, but differed in terms of fibre content. All the T-shirts were size Medium, but due to the items being from different stores, the shapes differed slightly. One of the shirts was made from an organic cotton blend. The garments had their price tags as well as the normal product information on. All the focus groups participated in this exercise, but each group was exposed to a different information source before a choice was made. Photographs of the shirts are included in Addendum D.

Plain white shirts were used as the garments are easily comparable and also because it is a basic garment. More fashionable items would have introduced other complications. The use of a plain T-shirt was also supported, as participants did not have the need to actually try it on, but still evaluated it on

their perception of whether it would fit. For future research a different kind of garment, for instance jeans, may be used; however, the garments need to be similar, so as to be easily comparable for participants.

The projective technique and garment choice were inherently similar. This was done in order to compare whether there was a difference in their decision after exposure to an information source. The use of two very similar techniques also increased the triangulation of method in the study.

4.5.6 Focus group discussions

Focus groups represent group interviews, which are used to find out how people think or feel about an issue (Greeff, 2005:299). According to Greeff (2005:301), focus groups are powerful methods to investigate behaviour and motivation. An advantage of focus group discussions is that it provides a method of observing interaction on a topic in a limited time span (Babbie & Mouton, 2001:292). The aim of the focus groups was to explore and discuss the motivations for the choices of the garments from the garment choice exercise, as well as the impact of the information source they were exposed to. The method was also used to gain a broad range of data; the participants were encouraged to voice their own opinions and discuss it between themselves, without the researcher influencing them, which reduces some possible bias. Hiller-Connell (2010:281) used semi-structured interviews to obtain data regarding barriers to purchasing environmentally friendly apparel. Due to time constraints, individual interviews would not have been feasible for this study; however, the group discussions provided a similar setting, as will be explained below.

The focus group interviews started off with probes based on themes and categories developed from the literature, but as the discussion progressed and participants started interacting, the order of the probes varied and new prompts

were given to verify or further explain certain statements. A schedule with themes and possible prompts was developed from the literature and was used to guide the focus group discussions and to assist the researcher in probing for relevant information. These themes and prompts were refined in during the piloting of the research instruments, using research team members, experts and potential participants. The focus group discussion was semi-structured with certain themes that needed to be covered, but it also provided the possibility for new themes to emerge (Greeff, 2005:309). Table 4.4 sets out the themes and some of the probes used in the focus group discussions.

TABLE 4.4: THEMES FOR FOCUS GROUP DISCUSSIONS

THEMES	PROBES
Product attributes (Objective 1)	• Why did you select the specific garment? ▪ When making your decision, what aspects did you consider? ▪ What aspects do you usually consider when shopping for clothes?
Information source influence (Objective 2)	▪ What did you think about the information given to you? ▪ How did you feel about the information? ▪ What impact would this information have on you if a friend conveyed it to you? ▪ How would you prefer to receive information regarding environmental aspects of clothing? (articles/ radio/ TV/ etc.) ▪ How aware are you regarding environmental information relating to apparel?
Environmental knowledge (Objective 1)	▪ How would you judge your awareness of environmental issues? ▪ Do you care about the environment? ▪ How do your beliefs about the environment affect your buying decisions?
Environmentally friendly apparel (Objective 1)	▪ Are you aware of environmentally friendly clothing products? ▪ Would you buy it? Why? ▪ What do you think about environmentally friendly apparel?

While the role of mainstream promotional sources of information was explored by means of specific exposure during data collection sessions, the researcher did not expose participants to interpersonal information sources and rather relied on participants' personal experiences in this regard. During the focus group discussions the interviewer asked the participants whether they would consider purchasing environmentally friendly apparel if a friend recommended it, in order

to gain insight into this type of information source. They were also asked whether they would believe information about environmentally friendly apparel if a friend told them about it. Word of mouth still remains an important source of information, as emphasised by Pickett-Baker and Ozaki (2008:282), and the role it plays in apparel purchasing behaviour is therefore worthy of further exploration.

Focus groups were effective in generating conversation since multiple opinions and responses were needed in a limited time period on a specific topic, namely, the selection of a T-shirt (Greeff, 2005: 300). Some problems did arise. In some groups a dominant person would answer questions in a certain way and the other participants would just agree with her opinions. In some of the focus group discussions, not all participants interacted fully. One-on-one interviews might be better for future research; however, the focus group stimulated discussion between participants, which led to interesting data being obtained.

In Table 4.5 below a summary is presented of the different phases and data collection methods.

TABLE 4.5: DATA COLLECTION TECHNIQUES

PHASES	Technique	Aim & justification	Description	Evaluation
Piloting of research instruments	All research techniques used	To eliminate problems before study commenced	Participants were asked to: • Complete the environmental knowledge essay and projective technique exercise. • They were exposed to an information source. • A focus group discussion was held. • Asked to verbally evaluate techniques used.	Some problems were brought to the researcher's attention and in the main study an effort was made to eliminate these problems.
Phase 1a:	Environmental knowledge essay	To explore the level of participants' general environmental knowledge	Participants were asked to write about their opinions of what they considered the major South African environmental problems as well as the causes and consequences of these problems.	• Broad range of data collected • Results cannot be generalised due to limited sample • Provided opportunity for participants to be creative and answer honestly without set questions that could bias or limit responses
Phase 1b:	Projective technique	To explore whether environmental knowledge plays a role in the typical and usual apparel decision-making process	Participants were asked to complete a scenario in which the participant was asked to select the garment she thought her friend would choose and also to motivate this choice.	• Free and frank data without social response bias • Actual garments could provide more evidence regarding selection criteria
Phase 2a:	Information source exposure	To expose participants to information sources about environmental issues related to apparel	Participants were exposed to different information sources including a DVD, a magazine article and product labelling.	• The different sources need to be applicable to the study • The reading of the article was time consuming and some participants finished quicker than others.

Phase 2b:	Garment choice	To explore whether information source exposure had an effect on the apparel decision-making process	After being exposed to one of the information sources, participants were asked to select a garment out of three possible choices.	• Garments were easily comparable • Participants seemed to make their decisions quickly
Phase 2c:	Focus group discussions	To explore the attributes used in the garment choice selection and the role of information source exposure.	A discussion was held after information source exposure and garment selection.	• Focus group encouraged discussion between participants • One-on-one interviews may be better to gain in-depth understanding • Provided vast amount of data in limited time period

4.6 DATA ANALYSIS

The data obtained from the research was analysed according to the objectives that were set out for this study. It is important to note that the sample was non-probable and only a limited sample was used; therefore no generalisations can be made. The data was analysed during and after data collection according to the recommendations of De Vos (2005:334-339) and Walliman (2005:308- 320).

The qualitative nature of the study produced a large amount of raw data. The hand-written data derived from the knowledge essays and the recorded focus group discussions was transcribed to electronic format before the data analysis commenced.

4.6.1 Notions of qualitative data analysis

Data analysis in the qualitative approach is challenging as well as creative (De Vos, 2005:334). Babbie and Mouton (2001:490) defines qualitative data analysis as a method of analysis for data that was gathered using qualitative techniques – as was used in this study. Various methods exist to ensure the validity and trustworthiness of the data (Strydom, 2005:203).

For this study the data was analysed according to the conceptual framework, the literature and the objectives set out for the study. The data obtained from the pilot study was analysed and problems that occurred were noted and improved upon. The data for the groups were all analysed together according to the information source they were exposed to. The use of multiple techniques enhanced the objectivity of the study.

According to Walliman (2005:310), there are no standard procedures for codifying and analysing qualitative data. In this study the process that was

followed for data analysis was: preliminary analysis, managing and organising the data, reading and writing memos, generating categories, themes and patterns, coding the data, developing understandings and drawing conclusions from this (De Vos, 2005:334). This was applied to the written data from the environmental knowledge essay and projective technique, as well as the data gathered from the focus groups. Notes were made about the choice each participant made in the garment selection exercise, and this was further included in the analysis.

4.6.2 Preliminary analysis

A preliminary analysis was done soon after completion of each data collection session. Each focus group was taped and audio records were kept. Raw field notes were processed and the recordings of the focus groups were transcribed. The transcribed notes were read and re-read and summaries were made. If interesting concepts or ideas came forward a note was made to follow-up on that concept during a following data collection session.

4.6.3 Managing data and writing memos

After preliminary analysis the verbatim transcripts were sorted into broad categories relating to the objectives set out for the study as well as to the literature (Walliman, 2005). A draft analysis was made from this. In other words, if data was relevant to one of the objectives it was sorted under a broad category relating to that objective. Summaries were made from the initial results to determine further categories, themes or patterns. The information was ordered according to a set of headings that was developed from the objectives and literature, as set out in Walliman (2005:311). These headings included environmental problems, causes and consequences of environmental problems,

product attributes used in evaluations, and the role of different types of information sources.

4.6.4 Generating categories, themes and patterns

The data was further reduced through developing sub-categories under each category identified. The literature was consulted and reviewed to verify categories that emerged and where justification was needed. Data that seemed irrelevant to the study was discarded. The discarded information was later checked to ensure that no relevant data was lost.

After the categories were further refined, the data analysis was checked for certain themes or patterns that emerged. This was done by means of coding, which entails checking for similarities and differences within the data.

4.6.5 Coding

The formal representation of analytic thinking is coding. Coding was done in table format and later refined. The final data analysis is presented in table format in Addendum E.

The process used to refine the initial data into more specific categories was done by means of coding, which entails finding similarities or differences within the data. Coding is an important part of qualitative research as this forms part of sorting data into categories and sub-categories (Walliman, 2005:312). Codes are tags or labels used to allocate meaning to the collected data (Walliman, 2005:312). Walliman (2005:312) also recommends that a set of codes should be compiled based on the background study before doing fieldwork and then refining it as data collection and analysis progress. This was all done by means

of conceptualisation. Before research started a range of possible codes were developed, but as data was collected and analysed it was reduced into smaller units and the initial codes were modified.

4.7 QUALITY OF STUDY

There is no use in conducting research if it cannot be validated. The quality of any qualitative study relies on four components. These components are set out in De Vos (2005:345-346) as: credibility, transferability, dependability and conformability.

Credibility refers to whether the data is true. Babbie and Mouton (2001:277) ask whether there is "compatibility between the constructed realities that exist in the minds of the respondents and those that are attributed to them?" According to De Vos (2005:346), credibility also refers to the manner in which the inquiry was conducted. Credibility is achieved through a number of different methods. These methods include: ensuring that data saturation is achieved, triangulation, recordings, to capture and document findings, member checks and peer debriefing (Babbie & Mouton, 2001:277).

In this study credibility was achieved by piloting the research instruments to test the procedures and prepare for the actual research. Multiple data collection techniques were used to ensure triangulation, including a projective technique, which assisted in eliminating social response bias. Focus group discussions were held until data saturation was achieved. Extensive field notes were made and the focus group sessions were recorded and transcribed verbatim. Member checks were then done to ensure that the data corresponds to the participants' opinions.

Transferability refers to the extent that the findings can be transferred to other contexts and is achieved through thick, thorough description of the data and purposive sampling (Babbie & Mouton, 2001:277; Lincoln & Guba, 1985).

Some of the ways transferability was achieved was through the guidance obtained from the conceptual framework and the literature. Also, the manner in which the research was done is fully set out in this chapter to ensure that others are able to use similar methods and draw similar conclusions.

If the study was to be repeated with the same or similar participants in a similar way, the findings should be similar. This is the concept of **dependability** (Babbie & Mouton, 2001:278). Various data collecting methods were performed in order to create triangulation. Triangulation refers to the process of validating data by using different methods to obtain that data (Lincoln & Guba, 1985:283). The analysis was done based on the themes and concepts developed from the literature and based on the objectives for the study.

Conformability refers to the study being developed from the inquiry and not based on the researcher's beliefs. Conformability is achieved through excellent record keeping. In this study extensive field notes were made. The focus group discussions were recorded and transcribed verbatim. From there the analysis took place. Throughout the entire data collection process the conceptual framework and the literature guided the process.

Each of the components that define the quality of a study and their relevance are set out in the table below. The strategies combined in the table were obtained from Babbie and Mouton (2001), De Vos (2005:345-346) and Lincoln and Guba (1985).

TABLE 4.6: STRATEGIES TO ENSURE TRUSTWORTHINESS

STRATEGY	APPLICATION
Credibility Inquiry should be conducted in such a manner as to ensure that the subject was accurately identified and described (De Vos, 2005:346).	▪ A pilot study was performed to test procedures and prepare for fieldwork. ▪ Participants took part in a projective technique exercise to help eliminate social response bias. ▪ Focus group discussions were held until information was saturated for each participant group. ▪ Extensive field notes were made and discussed with participants to ensure that it corresponded with their opinions. ▪ Recordings were made and transcribed verbatim and member checks were done. ▪ Various methods of data collection were used (projective techniques, focus groups and garment choice, as well as an environmental knowledge essay to ensure triangulation. ▪ Concepts and themes were identified during an open coding process based on the sub-objectives and theory.
Transferability The extent to which findings can be applied to other contexts (De Vos, 2005:346).	▪ Conceptual framework guided research and the literature review was used as a basis for the study. ▪ Detailed description of methodology is included to ensure that others are able to use similar methods to come to similar conclusions.
Dependability Refers to reliability, but takes into account instability as well as phenomenal or design induced change (Lincoln & Guba, 1985:299).	▪ Different methods of data collecting were performed. This is to create triangulation, a process of validating data by using different methods (Lincoln & Guba, 1985:283). ▪ Data was open coded. ▪ Analysis of themes and concepts was detailed based on sub-objectives and theory. ▪ Dependability audits of themes and concepts were done by more experienced researchers.
Conformability Refers to objectivity. Findings should be able to be confirmed by another person (Lincoln & Guba, 1985:300).	▪ Descriptive field notes and recordings were made. ▪ The conceptual framework guided the research. ▪ All records will be kept safe for a number of years.

4.8 ETHICS

Ethical guidelines serve as standards and a basis upon which researchers can evaluate their own conduct (Strydom, 2005:57). The ethical guidelines as set out by Strydom (2005:56-70) served as a basis for relevant ethical considerations to be taken into account in this study.

Some ethical issues include harm to participants; obtaining informed consent and deception of participants (Strydom, 2005:56). The ethical responsibilities toward the research subjects were considered. Consequences that the research will have on participants were considered and it seemed that the research did not cause harm to the participants. Participation was on a voluntary basis and all participants were asked to sign consent forms prior to data collection. A copy of the consent form used for data collection is shown in Addendum F.

While deception of participants can be seen as unethical in some cases of social research it is necessary to some degree to obtain meaningful information (Strydom, 2005:60). In this study the participants were told beforehand that the research was done to gain an understanding of how information sources influence the apparel buying decision. This can be seen as deception, for even though information source influence was explored, the participants were just not told about the environmental aspect. However, in the debriefing interview afterwards, it was explained to them that the focus was information relating to environmental issues of apparel. This was done to prevent data distortion.

An effort was made to minimise inconvenience for the participants by scheduling data collection sessions during suitable time periods and not during any exam periods or test weeks. The venue and location of the sessions were also convenient for the participants.

All the data and information obtained is kept confidential to ensure the participants' privacy. Participants were promised that their identities would be kept private and they will therefore not be named, but rather referred to by a letter and a number, for example Z1. The participants will thus remain anonymous and quotations are labelled according to the number of the participant (1 to 5) and the specific focus group session (listed from A to I).

The researcher also provides acknowledgement and recognition to all other authors in this study. Reference is made throughout the study to the different authors, and a detailed reference list is included. In addition to the above, the University of Pretoria's ethics review committee approved the study and authorised the proposed methodology before data collection commenced.

4.9 CONCLUSION

This chapter provided an overview of the research methodology used in this study. A qualitative research approach was used, as the aim was to explore and describe the issue in question. The qualitative study aimed to understand the events within the context in which it appeared (Babbie & Mouton, 2001:272). The unit of analysis and sampling procedure were described, as well as the criteria for participant selection.

Multiple data collection techniques were used in the study. Due to the way the objectives were formulated, each data collection session was structured according to two phases. The phases as well as the techniques employed in each phase were discussed. Further explanation was provided regarding the methods whereby the data was analysed according to the objectives set out for the study. Aspects relating to the quality of the study, such as credibility, transferability, dependability and conformability were highlighted and ethical implications were also discussed.

In the next chapter the results of the data are presented. The findings will also be discussed in brief.

CHAPTER 5

FINDINGS AND DISCUSSION

5.1 INTRODUCTION

In this chapter data results are presented which were derived from all of the data collection techniques employed in the study, including the knowledge assessment, projective technique, garment selection exercises and the focus groups discussions. The findings are organised and presented in accordance with the order in which objectives and sub-objectives were formulated for the study.

Qualitative data obtained from the various data collection techniques was coded to identify categories and subcategories. To gain a better understanding of the findings, the categories and sub-categories were further refined and a possible relationship that seemed to exist between the categories was also identified and described. The subsequent themes that emerged from the data analysis are presented as subheadings in the following sections. The results obtained from the various data collection techniques are presented combined as they apply to each of the identified themes.

The discussion is supported by verbatim quotations from the focus group discussions and accompanying projective techniques, in addition to statements derived from the essays. Quotations are labelled according to the participants (1 to 5) and the specific focus group session (listed from A to I) from which it originated. The complete verbatim transcripts of the focus group discussions, as well as copies of the original written assessments, are available on request.

5.2 YOUNG FEMALE CONSUMERS' ENVIRONMENTAL KNOWLEDGE

Knowledge is important in the decision-making process as consumers use knowledge to evaluate a product and then base their purchasing decision on this evaluation (Swinker & Hines, 2006:222; Straughan & Roberts, 1999:562; Martin & Simintrias, 1995:16). The first main objective of this study was therefore focused on exploring and describing the role of environmental knowledge in young female consumers' evaluation and selection of apparel products. According to Haron *et al* (2005:429), environmental knowledge can be defined as the "ability to recognize environmental problems, the causes and consequences of such problems including facts and concepts necessary for explanation". Environmental knowledge can thus be conceptualised in terms of three constructs, namely environmental problems, causes of environmental problems as well as the consequences of these problems. Each of these constructs is discussed in the following sections as they emerged as pertinent categories and themes in the analysis of the data.

5.2.1. Environmental problems

The majority of the participants were able to recognise the major *environmental problems* globally and in South Africa. These major problems included aspects such as **pollution, waste generation, depletion of natural resources** and **global warming**, which threaten ecosystems, both local and abroad:

> *"I would say that it is pollution in all forms." (F2)*
> "*Pollution. All sorts of pollution." (G2)*
> *"The amount of rubbish or waste such as plastic is also a problem. One day we will not have any more space to put the waste." (C4)*
> *"Natural resources may become extinct." (D1)*
> *"An increasing problem is global warming." (F2)*

Participants were able to further identify specific types of pollution (including air, water and land pollution), which they perceived as key environmental issues in the South African context. Air and water pollution frequently surfaced in discussions and seemed to be of particular concern. These concerns are warranted judging from reports in the media and leading publications on environmental affairs. High ambient sulphur dioxide and fine particulate concentrations are in fact prevalent in many South African urban areas (Scorgie, 2006:20).

> *"First of all I think there is a huge problem of air pollution especially in the cities." (H3)*
> *"The pollution that a person sees hanging over the cities when the wind has not blown in a while..." (C2)*

Water pollution, which is linked to patterns of land use and the discharge of gaseous, liquid and solid effluents, is also identified as a high priority problem due to the scarcity of water in South Africa (Hattingh, Turton, Colvin, Claassen & Ashton, 2006).

> *"Pollution of the ocean and other sources of water. The water is meant to be pure for drinking." (A4)*
> *"The state of dams and other water sources also causes problems." (C3)*

In addition, participants associated the issue of land pollution to waste, which formed another important topic of discussion.

> *""To my knowledge the biggest environmental problem in SA is land pollution. Land pollution in the country has been going on for years." (H2)*
> *"... excrete their waste disposals ... on land and that ... destroys the land." (F2)*

According to Theron (2006:271), South Africans generate an estimated 469 million tons of **waste** per annum, with volumes increasing annually, which validate the participants' views that waste is an important environmental issue. Participants identified littering and illegal dumping as important aspects related to the waste problem. Their views corresponded with reports that littering and the illegal disposal of various types of hazardous waste products have contributed to South Africa's current waste problem (Theron, 2006:272).

> *"Littering – there is a huge disregard for keeping the environment clean." (A2)*
>
> *"I would say illegal dumping… not only is it the dumping in open areas but also the littering." (C4)*
> *"Plastic, tins and waste of all materials are thrown all over the area." (G2)*

In addition to pollution and waste, a number of participants were also able to recognise the **depletion of natural resources** as an environmental problem. According to the *Living Planet Report* issued by the World Wide Fund for Nature (WWF) (2010), natural resources are currently being depleted at a rate of 50% higher than the earth can sustain. A vast majority of the 115 million people living in southern Africa are poor and live in rural areas, where they are very dependent on natural resources derived from their surrounding environments (Faccer, 2006:201). As such, participants are correct in their assessment that the depletion of natural resources is a critical issue within the South African context.

> *"Natural resources are consumed more quickly than it has time to be reproduced." (D1)*

Finally, participants also identified **global warming**, both as a major environmental problem and as the consequence of other environmental

problems. To eliminate duplication, findings pertaining to this theme will be discussed in the latter section**.**

From the above discussion, it appears that the participants were able to recognise the major environmental problems currently facing South Africa as reported in the media and other relevant literature.

5.2.2 Causes of environmental problems

Participants were able to recognise a number of underlying causes for environmental problems including ***population growth, urbanisation, excessive consumption and production, indifference, ignorance and a lack of education*****:**

> *"The infrastructure cannot handle the size of the population." (A2)*
> *"Overcrowding in the CBD, as well as vending are some of the issues that cause environmental problems." (H3)*
>
> *"People just want more and more." (C2)*
> *"Factories produce too many goods." (A3)*
>
> *"People also do little to help keep their suburb clean. They just sit back and watch how everything gets destroyed." (A1)*
>
> *"Pollution happens because people are not educated enough on how it damages the earth." (A5)*

The pressure imposed on resources and ecosystems as a result of population growth is apparent, considering that each person requires some minimum of water, food and shelter to survive as well as energy, all of which are ultimately derived from the planet's natural resources and ecosystems (United Nations Environment Programme, United Nations Environment Programme, World Bank

& World Resources Institute, 2000). Growth in urban populations, especially within developing contexts such as South Africa, is already characterised by demand that exceeds capabilities to deliver essential services such as the supply of water, energy and the management of waste (Van Wyk, 2006:266). Moreover, consumption-filled lifestyles to which a large segment of the South African population aspire, compel an increased supply of goods and evidently contribute to the continued deterioration of natural environments (Rosenberg, 2006:56).

> *"The infrastructure cannot handle the size of the population." (A2)*
> *"The cities are expanding so far and so fast that the forests are being taken out ... Also the factories producing the goods that we want, but actually do not need." (C2)*

In addition to the above, several participants mentioned **ignorance, limited ecological intelligence** and **egocentric indifference** as reasons for environmental problems, which they further blamed on the general lack of environmental education.

> *"Ignorance, because people do not want to think and find alternative ways of doing things …" (C4)*
> *"Humans are self-centred and don't think about the future." (A3)*
> *"People are not educated on how you combat these problems through recycling, saving water, caring for the natural environment, buying certain products that are more environmentally friendly." (D1)*

In a recent publication, Naledi Pandor (South African Minister of Education) highlighted the past deficit in environmental education, which left many young South Africans at a loss regarding the environmental impact of their own activities and those of the wider society on the functioning of ecosystems (Pandor, 2006:105).

Contrary to the above, this sample of participants were well informed and went as far as identifying specific causes of **waste, land, water** and **air pollution**:

> *"Big mining companies excrete their waste ..." (F2)*
> *"Electric power supply causes pollution of all kinds." (G2)*
> *"The manufacturing companies send a lot of waste gas into the air." (D2)*
> *"Harmful chemicals in the water that come from factories …" (A1)*
> *"More and more people can afford cars, therefore more cars on the road means more smoke from their fuel-geared tanks, and ageing of vehicles."* (*C4)*
> *"Basic burning of fossil fuels by people. In our neighbourhood a lot of people have coal stoves and during winter when it's about 6 pm you can't see due to the heavy smoke." (E2)*

Participants underlined **mining, manufacturing** and **energy supply** sectors as pertinent culprits of various types of pollution. Over the past few years, South Africa's energy sector has been under constant scrutiny as a result of an overextension of existing capabilities and its reliance on traditional coal-fired power stations. Furthermore, evidence of mining activity is seen throughout South Africa and it is estimated that there are as many as 8000 abandoned mines that require environmental rehabilitation due to poor mining practices (Cluett, 2006:254).

Hattingh *et al* (2006:275) provide a typical example of the combined impact of these sectors by explaining that emissions from power stations, mines and industries combine with water in the atmosphere to form so-called "acid rain" which pollutes soils, vegetation and water bodies. Also in accordance with participants' views, Scorgie (2006:20) confirms that South Africa's air pollution problems are mainly caused by emissions from industrial and transportation sectors as well as household coal and wood burning. The growth in vehicle

activity as well as the ageing of the national vehicle fleet is viewed as particular sources of concern in this regard (Scorgie, 2006:20).

Participants identified causes for water pollution as **industrial** and **domestic waste,** which is supported by Hattingh *et al* (2006:277).

> *"Harmful chemicals in the water that comes from factories." (A1)*
>
> *"Toilet waste pipes, it decreased the level of healthy water." (D2)*

Participants felt that the overall quality of water is affected by chemicals and waste and therefore not suitable for poor communities to use it directly from rivers. Some participants identified inadequate sanitation as a factor contributing to waste-related problems. Millions of households in South Africa still lack adequate sanitation facilities. Sanitation brings about a list of considerations, including the disposal of wastewater, refuse and industrial waste (Pearson, 2006:247).

To conclude this section, the link between **poverty** and **environmental degradation**, which is particularly evident in third-world, emerging contexts such as South Africa, also featured in participants' comments:

> *"Poor people do not have sanitation, therefore they use the environment for that. They use water from dams and lakes as their drinking, washing and bathing water." (F2)*
> *"Poor people cut and destroy trees to make fire to keep warm in winter." (F2)*

As stated in the 2010 *Living Planet Report* "... although all people depend on ecosystem services for their well-being, the impact of environmental degradation is felt most directly by the world's poorest and most vulnerable people" (World Wide Fund for Nature, 2010).

5.2.3. Consequences of environmental problems

Participants' opinions regarding the consequences of environmental problems were divided into three sub-categories, namely **threats to humanity, threats to economic sustainability,** and **threats to nature and other living species**. Participants also repeatedly emphasised **global warming**, both as a problem and as a consequence of various other environmental problems. Threats to humanity included aspects such as diseases and poor health as well as eradicating the livelihood of future generations:

> *"The fact that the air is being polluted has an effect on people's health. Especially people in rural areas suffer from health problems." (A3)*
> *"People will drink this* [polluted] *water and get very sick." (D2)*
> *"There won't be enough trees or clean enough water because all our resources will be spent." (E1)*
> *"Humans will not have food to eat. This will then destroy the cycle of life." (F2).*

Participants related the consequences of environmental problems such as air and water pollution to health problems and diseases. Approximately 70% of all respiratory hospital admissions in South Africa are in fact attributed to the inhalation of fuel-burning emissions (Scorgie, 2006:20). Moreover, carcinogenic substances in water such as pesticides and solvents can cause cancer, whereas other industrial and domestic waste has been reported to contribute to water-related diseases such as cholera and diarrhoea (Hattingh *et al*, 2006:275). Another threat to humanity (which participants linked to the depletion of natural resources) was the eradication of future generations' livelihood. The *Living Planet Report* issued by the World Wide Fund for Nature (2010), attests to the legitimacy of such concerns.

Participants viewed threats to economic sustainability as particularly prevalent within the local tourism and agricultural sectors:

> *"This might lead to our country losing tourists, who wouldn't want to tour in a dirty place." (G1)*
> *"The livelihood of farmers is also affected. They cannot expect to produce crops on land that can't be farmed." (E2)*

Tourism and agriculture are often highlighted in the media as important contributors to the South African economy. As a matter of fact, South Africa's tourism market contributes a substantial share to the country's GDP and is recognised as one of the fastest growing tourism markets in the world (Varty, 2006:87). According to participants' point of view, these sectors are often most directly impacted by environmental degradation. In addition to recognising the threats environmental problems pose toward humanity and economic well-being, participants also identified the pressures imposed on nature and other living species:

> *"... destroys the natural habitat of animals ..." (H2)*
> *"Another problem would be the extinction of animals as well as people killing them." (F2)*

The conservation of plant and animal species as well as the ecosystems and ecological processes that allow such species to survive over time (i.e. biodiversity) is imperative in ensuring a sustainable future (Huntley, 2006). Participants' comments pertaining to the destruction of natural habitats, deforestation and extinction of animal species all relate to a loss of biodiversity as a critical consequence of various environmental problems.

Finally, global warming was singled out as a major cause for concern and the outcome of various other environmental problems. According to participants'

views, global warming is now accepted as a reality by most credible scientists (Dada, 2006:149).

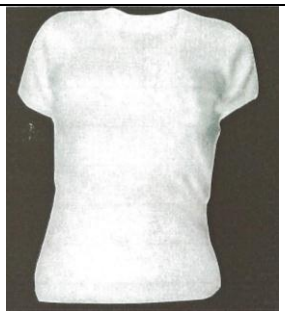
> *"The pollution causes global warming to happen quicker." (A3)*
> *"This causes global warming, which in the long run will be detrimental to all living species." (F2)*

In summary, these findings illustrate a broad knowledge base among participants regarding general environmental problems, causes and consequences, both in South Africa and abroad. However, none of the participants were able to identify specific environmental problems, causes or consequences related to the textile and apparel supply chain. The question thus remained whether their general environmental knowledge and awareness influenced their specific evaluation and choice of apparel.

5.2.4 Evaluation and choice of apparel

To explore whether participants applied their knowledge of broader environmental issues in their apparel buying decisions, participants were asked to select a white, crew-neck T-shirt (which they thought their friend would most likely choose), based on the images and information listed in Table 5.1. According to Brown and Rice (2001:38), consumers use different dimensions to assess apparel items, including **physical properties** (e.g. design, fabric, finishes, and construction), properties related to the **functional performance** of the item (e.g. utility, durability, fit and comfort), as well as **aesthetic performance** criteria (e.g. emotional, cognitive and sensory aspects). In addition to the above, **environmental criteria** related to the manufacture, supply, purchase and use of the garment may also apply.

TABLE 5.1: INFORMATION PROVIDED ABOUT EACH T-SHIRT

	T-Shirt 1	T-Shirt 2	T-Shirt 3
			
Price	R95.95 (Approximately $12 / € 8.70)	R99.95 (Approximately $12.50 / € 9.00)	R89.95 (Approximately $11 / € 8.10)
Fibre content	100% Cotton	100% Organic cotton	100% Polyester
Manufacturing origin	Not stated	Mauritius	China
Fabric origin	Imported	Imported	Imported
Care instructions	• Luke warm wash • Do not bleach • Warm iron • Dry Cleanable • Do not tumble dry	• Machine washable • Do not bleach • Warm iron • Do not dry clean • Do not tumble dry	• Hand wash • Do not bleach • Do not iron • Do not dry clean • Do not tumble dry

Participants who selected T-shirt 1 stated that ease of care and price were their friend's main considerations for selecting this T-shirt. Some claimed their friend would select this T-shirt because of the comfort provided by the type of fabric. They also indicated that they believed cotton was more durable. Aesthetic features, which refer to how the product will satisfy the consumer's needs in terms of appearance, fashion preferences, and styling (Brown & Rice, 2001:38), also featured prominently in participants' assessments.

"It is the easiest to care for." (*C3)*
"… because it is the easiest to wash ..." (C2)
"The price is less." (*D1)*
"Not too expensive …" (D3)
"Cotton is more comfortable." (A4)
"*In terms of durability, this shirt will last longer." (E1)*
"The style of the shirt ..." (D1); "...how will it suit her body ... but fashionable ..." (D3)

It is interesting to note that, although there was no indication on the first T-shirt's label about where it was made, some participants assumed it was locally produced and seemed enthusiastic about supporting South African products:

"Shirt 1 is made in South Africa using imported material, so I believe in supporting South African products." (*D2)*
"It is presumably locally made, which increases SA track." (*A2)*

Only three participants from the entire sample selected the second option. All three participants indicated that their choice was based on the environmentally friendly attributes of the garment. A willingness to pay more for a product that has positive environmental consequences seemed however subject to a limited price variance between environmentally friendly and less environmentally friendly options. In addition to the above, participants also highlighted functional performance criteria such as tactile quality and comfort as a reason for their choice:

"… because she is environmentally aware … which is more positive in terms of the environment ... will rather pay more for a product, which is more positive in terms of the environment." (A3)

> *"Because its 100% organic cotton, which feels great and helps with the environment. Plus it is not too expensive when compared to the normal '100% cotton T-shirt'." (E2)*

The functional features of apparel do not necessarily have anything to do with the appearance of the product (Brown & Rice, 2001:38-39; Eckman *et al*, 1990:17). In this case, participants who selected the organic cotton option based on its environmental attributes, with functional features and price as secondary criteria, seemed less concerned about the aesthetic appearance of the shirt. Several of the other participants in fact compared the appearance of the organic cotton T-shirt to that of the other T-shirts and expressed the opinion that it was not aesthetically appealing to them. Thus, even though "organic cotton" sounded appealing to them, the actual appearance prevented them from choosing this option:

> *"It doesn't look appealing when worn although its 100% organic cotton." (H4)*
>
> *"100% organic cotton sounds very inviting, especially the organic part, but the shirt itself doesn't look that inviting." (D2)*

Apart from aesthetics, other participants simply noted that environmental attributes would not matter, mainly due to a lack of understanding regarding "organic" qualities:

> *"I do not think that she would consider which shirt is more environmentally friendly." (D1)*
>
> *"Although it's made of "organic cotton" that would not even matter to her because she doesn't know what is so special about 'organic' products." (G1)*

Participants' preference for the third option listed in Table 5.1, was mainly influenced by price. Secondary criteria for choice included ease of care based on

the “Do Not Iron” label, as well as the style and physical appearance of the garment:

> *“The price in comparison to the other shirts is the lowest and price is very important when buying an item.” (F1)*
> *“It is easier to clean and doesn't need ironing.” (C1)*
> *“She does not have time to iron her clothes and this would be convenient.” (H1)*
> *“She would like the style of this shirt more than the others.” (C1)*

As can be gathered from the verbatim text, non-ironing qualities were linked to convenience rather than the positive environmental by-product of saving energy. Furthermore, participants’ regard for country of origin revolved around quality issues rather than environmental impact:

> *“We have many items that we use and they were made in China, so you more or less know what to expect.” (F2)*
> *“My friends and I are not really fussy about the origins of clothes.” (C4)*
> *“... it will make her doubt buying it” (G1)*
> *“... suspicious of Chinese products” (H3)*

In summary, the attributes that participants deemed important when selecting apparel mostly corresponded with those proposed by Eckman *et al* (1990:20), which include price, expected comfort, care requirements and whether the garment matches with other items owned by the consumer. These aspects also relate to functional features of apparel such as fit, comfort, instructions for care, and durability of the item (Kadolph, 1998:33-35). Eckman *et al* (1990:19) found that colour, pattern and style are the characteristics that attract consumers initially to items on the shelf and determine their initial selection of items to try on. According to Kadolph (1998:28), the aesthetics of apparel products integrate many factors that deal with the consumer’s perception of the product. This

includes characteristics related to how the components work together and the impact of all the different physical components on the overall attractive or suitable appearance of the product. Unfortunately, environmental attributes did not seem to enjoy the same level of prominence in participants' selection and evaluation of apparel items.

5.3 VARIOUS SOURCES OF ENVIRONMENTAL INFORMATION AND APPAREL SELECTION AND EVALUATION

Information is obtained from a number of different sources (Swinker & Hines, 2006:218). Information sources can be defined as the different methods used to communicate messages or information to consumers (Solomon & Rabolt, 2004:322). Literature generally distinguishes three main categories of information sources, namely marketing and media, product and labelling, as well as interpersonal sources (Solomon & Rabolt, 2004:365; Sproles & Burns, 1994:197-200, 267-273; Huddleston *et al*, 1993:26; Eckman *et al,* 1990:13; Beal & Rogers, 1957:630-632). In accordance with the above, the second main objective of this study was focused on exploring the influence of exposure to various sources that communicate environmental information on young female consumers' choice and evaluation of environmentally friendly apparel products.

The second phase of the data collection sessions was specifically focused on exposing the participants to information sources and engaging them in the subsequent garment selection and focus group discussions. The participants of each focus group were asked to choose one garment from a selection of three similar garments (see Table 5.2), after exposure to a source of information pertaining to the environmental impact of apparel. Participants from each group were either shown a short DVD regarding the environmental impact of a denim jean factory in Lesotho, or asked to read an article that appeared in a fashion magazine, or were exposed to additional hangtag information. Interpersonal

information is a difficult concept to measure. Since participants could not be exposed to this source of information in a similar manner to the other sources of information, they were asked about their own personal experiences regarding the impact that peers and family have on their apparel purchases.

Two groups were not exposed to any information sources and while the intention was to compare the groups that were exposed to and not exposed to information sources, there was not a significant difference in the outcome between the different groups. The following section highlights the findings pertaining to the selection of each garment as set out in Table 5.2.

TABLE 5.2: GARMENT INFORMATION

	SHIRT A	**SHIRT B**	**SHIRT C**
			
Price	R 25.99 (Approximately $ 3.19/ € 2.49)	R 39.95 (Approximately $ 4.90 / € 3.83)	R 39.95 (Approximately $ 4.90 / € 3.83)
Fibre content	97% Cotton/ 3% Lycra	95% Cotton/ 5% Organic Cotton	100% Cotton
Manufacturing country	Lesotho	South Africa	China

As was noted earlier, apparel products are evaluated and selected based on attributes which the consumer considers important and that are prioritised in the

decision-making process. Such attributes may include both intrinsic and extrinsic factors.

The majority of participants who selected **shirt A** mentioned **price** as the deciding factor, especially in light of limited financial means:

> *"… it's cheap" (G3)*
> *"…'cause you're broke" (E1)*

According to Norum (2005:142), price is generally an important consideration for consumers. Mandese (as referred to by Mainieri *et al*, 1997:193), found that even though consumers are of the opinion that the environment should be protected, they are also extremely price sensitive when it comes to environmentally friendly products. Overall, Sproles and Burns (1994:270) also found that price was the main factor in apparel purchasing decision-making. At this point it is important to note that the sample consisted of students and this might be a reason for the price-sensitivity in the group. Students generally do not have a large disposable income and the likelihood of price being a more important factor in their decision-making than other apparel attributes is therefore high.

In total, only two participants did not mention price as the most prominent factor in their evaluation and selection of shirt A (although both admitted that they were price sensitive when asked about attributes they generally consider when shopping for apparel). Both these participants were predominantly focused on the **fabric** of which the shirt was made. One of these participants was in a group that was shown the DVD of how jeans are made in Lesotho and the environmental impact of the production process. It would seem that the informational exposure did have some sort of influence on this particular participant's ultimate garment choice:

> *"I would have liked the material … but it's made in Lesotho." (C1)*.

However, judging from the majority of responses by the participants, the dominant attribute for the evaluation and selection of shirt A seemed to be price.

Shirt B represented the most environmentally friendly option in the selection of garments from which participants could choose. Despite its environmentally friendly attributes, the participants who selected shirt B seemed to note **quality** as the deciding factor. Perceived quality is defined by Abraham-Murali and Littrell (1995:149) as all the properties a consumer deems important. These properties usually include the intrinsic properties of a garment such as durability and fabric. In this case participants' perception of quality can also be credited to the store's positioning strategy. According to Eckman *et al* (1990:13), store image can be a deciding factor in consumers' evaluation of a product.

> *"The one from Woolworths. Well, it seems like a better quality…" (D3)*
> *"…it must be quality." (F1)*

While quality encompasses all the physical and functional performance attributes of a product, some participants also noted that the fabric and stretch of the garment influenced their decision.

> *"This one, it feels good and it stretched. It just feels good" (H1)*

Only one participant seemed to include the shirt's **environmentally friendly** status as a choice criterion:

> *"… it is eco-friendly as well". (D2)*

However, it appears that the eco-friendly status was simply viewed as an added benefit, as can be deduced from the words "as well". This particular participant was included in the group that was exposed to additional product labelling. The

product labelling could therefore have facilitated the participant's decision-making process and simplified the recognition of environmentally friendly attributes amid various other selection criteria.

Overall, it would however appear that most of the participants who selected this shirt did not use environmental knowledge or the environmental information gained from various sources to which they were exposed as factors in their selection.

The majority of the participants who selected **shirt C** indicated that the fabric was the most important consideration in their decision-making. They described the fabric as stronger and not as "heavy".

> *"… it feels good and it's like not as heavy…" (H3)*
> *"I'll also go for this one. The material is stronger." (G2)*

While the majority described fabric as the deciding factor, some of the participants also noted functional performance attributes as added inputs in their decision. The functional performance attributes of a particular garment include its fit, care, durability and comfort. In addition to the above, style (which relates to aesthetic considerations) was also mentioned by some:

> *"… look if it can be washed in cold water ..." (C3)*
> *"... if it looks like it could fit well ..." (C4)*
> *"... I like the style of the Kelso one." (D1)*

In a study conducted by Fiore and Damhorst (1992:176), fabric emerged as the most prominent estimator of overall quality in apparel products. They could only speculate on why fabric was such a strong indicator of apparel quality; possible reasons include that, because fabric encompasses many different aspects such as fibre content, type of fabric construction as well as the feel, fabric could be a

cue for either care considerations, durability, comfort or aesthetics. It is therefore important to keep in mind that fabric might have meant different things to the different participants.

One participant noted that it was not that much more expensive than the cheapest shirt option:

> *"… the price difference is not that much …" (G1)*

Only one participant mentioned price; this might indicate that the participants who made this selection are not as price sensitive as some of the others. The main reason for selecting shirt C seemed to be the fabric, followed by its functional properties, such as care, comfort and fit.

In summary, only two instances were recorded whereby exposure to environmental information appeared to have some influence on participants' evaluation and selection of apparel. In both cases, exposure merely aided in positioning environmentally friendly attributes as secondary choice criteria, whilst primary considerations such as price and quality perceptions remained deciding factors. The choice of apparel and selection criteria also remained consistent, regardless of the type of media and information to which participants were exposed. These findings closely parallel the outcomes of the projective technique exercises, which further indicated that participants were not influenced by information source exposure. It can therefore be concluded that exposure to various sources of environmental information did not have a significant impact on the participants' evaluation and selection of apparel.

According to May-Plumlee and Little (2006), most products are only evaluated based on five to seven attributes, depending on the attributes the consumer finds most important. This implies that even if a consumer is concerned with the environment, they might not consider the environmental attributes of a garment in

their purchasing decision as other attributes, such as fit, may be more important to them.

As a by-product of the qualitative research process, and given the aim of the study, namely to explore the issue participants were asked to give suggestions on how environmental information could be presented and communicated more effectively.

With regard to **popular media** some participants suggested that environmental information regarding clothing should be broadcast through advertisements on **television**. The information given in the advertisements needs to explain the relevant concepts. The information should also be presented in a believable and credible manner. According to Ashill and Yavas (2005:54), respondents in their study indicated that TV advertisements were misleading and had a negative impact, especially with regard to children. This is an important factor when providing consumers with information relating to the environmental attributes of apparel, as the information needs to be perceived as credible. While some of the participants were of the opinion that environmentally friendly apparel did not enjoy enough exposure in the media, others felt that even if it did, advertisements might not be the most appropriate method, as the possibility still exists that the message will not reach all of its intended audience:

> *"… at home when there is an ad you quickly run to do something and then come back to the programme and you don't really see the ad …" (D2)*

In similar vein, opinions and statements regarding exposure of environmentally friendly apparel in **magazines** and other **print media** were also characterised by a degree of cynicism. Participants indicated that even if there are articles regarding environmentally friendly apparel, unless the heading and topic interests them, it is not likely that they would read the article. Participants also mentioned believability and credibility of information. Some of the participants indicated that

they would have difficulty believing information about environmentally friendly clothing if it appeared in a fashion magazine. They stated that it would be more believable if it were in a health or fitness type magazine. The participants also indicated that the amount of information should not be too much, but rather short and interesting. This indicates that the marketing of environmentally friendly apparel could focus on alternative avenues and forms of printed media to extend the amount of exposure allocated to environmentally friendly apparel.

> *"… I don't think I trust it from a fashion magazine as such because it's just … it doesn't sound like the market it's aimed at. Like, it's not aimed at eco-friendly people; it's aimed at people who like clothing and shoes …" (I3)*
> *" ... it mustn't be like a long article" (D3)*

Other forms of popular media, which participants pointed out might be helpful in the marketing of environmentally friendly apparel, included radio, billboards and the distribution of pamphlets.

In conjunction with popular media, **product labelling** can also be seen as an important source of information. Many consumers make the decision to purchase apparel only when they are in store (Solomon & Rabolt, 2004:447). It is clear that certain in-store information sources are an important part in promoting and providing information related to environmentally friendly apparel. Yet, participants mentioned that they seldom look at the label or hangtags of apparel. Thus, for environmentally friendly product labelling to be effective, the label must be visible and must contain relevant information:

> *"The thing is you are not going to be reading every tag to see if it is ..." (F1)*
> *" ... I never even look at the label ... So, like it should be like a sticker ... on the front" (C3)*
> *"I only read them when I wash." (H3)*

Some participants mentioned that environmentally friendly apparel in South Africa should have a standardised symbol. Globally, many eco-labelling schemes exist such as the White Swan, Blue Swan and EU Flower. These labels validate environmental claims of products and signals to consumers which products are better for the environment (Goggin, 1994:460). It therefore makes it easier for consumers to identify suitable products:

> *"Maybe if they had standardised symbols or something for clothes as well …" (I2)*

The results suggest that environmentally friendly apparel should be clearly marked. In-store information relating to environmentally friendly apparel should also be available and labelling should be standardised for ease of recognition. According to Solomon and Rabolt (2004:448), retailers should pay more attention to the in-store information because so many decisions to purchase happens in store.

The third and final source of environmental information that was explored in this study and which emerged as a theme in focus group discussions was **interpersonal information**. According to Solomon and Rabolt (2004:409), interpersonal information is a powerful means of fashion communication and marketing. Participants were asked, if a friend or relative were to suggest that they purchase environmentally friendly apparel, whether they would buy it or not. Participants indicated that they would listen to a friend who recommended environmentally friendly apparel, if that friend was knowledgeable about the subject and could answer their questions. Also some participants noted that if a friend wore environmentally friendly apparel, the apparel should still be aesthetically appealing in order for them to consider buying it:

"So, I guess if the friend was well informed and … you could ask, you know, why or what … so if they knew that kind of detail then they could probably persuade me to buy it." (I2)

"Not like ooh, I bought an organic thing and it's not looking so good on you …" (H4)

It appears that interpersonal information sources can be an important method for environmentally friendly apparel to be promoted. The participants trusted their friends and family, and if the friends and family members are knowledgeable, the participants will most likely follow their advice or listen to their opinion.

"I think it would, a trusted friend a lot more." (I4)

According to Minton and Rose (1997:45), it can be beneficial for marketers to encourage people to talk to their peers about pro-environmental behaviour. The reasoning is that norms influence purchasing behaviour. Social norms are often internalised as personal norms and through word of mouth, acceptance of pro-environmental standards of behaviour can be accomplished. Also, according to Pickett-Baker and Ozaki (2008:282), word-of-mouth information is the main influence on food and household purchases. The same might also be true for apparel.

5.4 SITUATIONAL INFLUENCES AND BARRIERS THAT INHIBIT PRO-ENVIRONMENTAL INTENT AND PURCHASING OF ENVIRONMENTALLY FRIENDLY APPAREL

Although the objectives of this study did not include an investigation of factors that inhibit the purchasing of environmentally friendly apparel, this category spontaneously surfaced from the focus group discussions. It became evident that there are certain situational influences and **barriers,** which prevent participants

from acting in a pro-environmental manner and subsequently purchasing environmentally friendly apparel. According to Hiller-Connell (2010:279), consumers consistently find it difficult to buy environmentally friendly apparel due to a number of inhibiting factors.

According to Brown and Rice (2001:38) as well as Eckman *et al* (1990:19), consumers generally use intrinsic and extrinsic apparel attributes in their decision-making. These properties include physical attributes, aesthetic performance attributes, functional performance attributes as well as extrinsic attributes such as price and brand and store image. It became apparent that participants would not compromise their expectations regarding these attributes and performance features in favour of more environmentally friendly attributes.

Intrinsic properties that participants deemed important included the fabric and tactile property of the garment (physical properties), colour, appearance and fashionability (aesthetic properties) and fit (functional property).

> *"I like it because of the texture"* (H4)
> *"If I think it looks good" (D3)*
> *"I look at the shape of it" (E1)*

From the responses of the participants it can be concluded that **aesthetics** were very important to them. If an environmentally friendly garment is not aesthetically pleasing, the consumer will simply not purchase the particular product:

> *" ... T-shirt that doesn't look appealing ..." (H4)*
> *"Hippies will love it (environmentally friendly apparel). Cause of the colours and patterns and stuff … Those funny skirts ..." (H2)*
> *"The colours are green, faun, white. They're not into red or orange..." (F3)*

In similar vein, Hiller-Connell (2010:282) found that participants in her study perceived environmentally friendly apparel as less stylish. It is thus important for environmentally friendly apparel to also satisfy aesthetic expectations, in order for consumers to consider purchasing it. In addition to the above, Swinker and Hines (2006:221) emphasise that consumers will not perceive a garment to be of superior quality unless it looks and feels good on them.

Participants also expressed an **emotional connection** to their apparel, which further emphasises their reluctance to compromise on attributes and features for the sake of the environment:

> *"At the end of the day you love that jacket …" (H3)*
> *"I'm still the one who will need to walk around feeling confident in it." (D3)*

An important factor in decision-making seemed to be that of **price**. Some participants expressed high levels of price sensitivity. As could be gathered from some of the responses, environmentally friendly clothing is believed to be more expensive than regular apparel. While this might be true in some instances, this is not always the case. This supports the findings by Hiller-Connell (2010:283), namely that economic resources were a barrier in acquiring environmentally friendly apparel.

> *"What's keeping me away again is the price." (G1)*
> *"… being so expensive; they're like a lot more expensive than the others, that's why I never really look at it." (D1)*

Other barriers that were highlighted in the focus group discussions were not related to the product itself, but rather to the **exposure and marketing** of environmentally friendly apparel products. This is in keeping with the studies conducted by Hiller-Connell (2010:284) and Chitra (2007:175). Some participants acknowledged that they were not aware of environmentally friendly apparel and

others blamed the unavailability of environmentally friendly apparel as an inhibiting factor:

> "*If it's more available. If it was more accessible …" (E1)*
> *"If there was eco-friendly clothing." (H3)*
> *"If you could find it from a normal shop." (H2)*

Another important barrier that surfaced in the discussions was the **lack of knowledge and information** regarding the environmental impact of clothing. According to Chen-Yu and Kincade (2001:33), even textile experts sometimes have difficulty evaluating all the properties of a garment due to the complexity of apparel. The findings of this study indicate that knowledge regarding environmental issues does not necessarily contribute to more pro-environmental decisions. A clear **lack of understanding** exists of the link between apparel and the environmental consequences related to its production, distribution, use and disposal. Evidently, participants do not possess enough task-related knowledge and information to make informed decisions.

> *"I don't really know what the effect is on the environment." (D1)*
> *"I don't really know all these things. I don't have enough information, you know? I only know so much ..." (F1)*

Apart from the above, participants were not convinced that their individual consumption choices would make a difference:

> *"Ja, but I think there are so many more things we should worry about in terms of the environment than buying the shirt that is organic cotton" (A2)*
> *"You don't feel like you're making a difference if you are the only one and no one else is doing it." (D1)*
> *"Like you do want to make a difference but you are one person. You feel, so, it's just me against all the rest of the people." (C1)*

"We don't have that much influence as we think we have, it's been over-exaggerated or whatever." (A2)

The above statements relate to the notion of **perceived consumer effectiveness**, which Vermeir and Verbeke (2006:175) define as "the extent to which the consumer believes that his personal efforts can contribute to the solution of a problem." According to Straughan and Roberts (1999:558), perceived consumer effectiveness is one of the most important predictors of environmentally friendly consumer behaviour. Perceived consumer effectiveness also has an influence on consumers' willingness to pay for environmentally friendly products (Laroche *et al*, 2001:). This barrier can be overcome through marketing and providing consumers with information regarding the difference they can make through their own individual behaviour.

The last barrier mentioned by the participants was **conditioning** or **buying habits** that participants have. They noted that they tend to buy things they are familiar with and feel confident using:

"She will be more confident in buying what she already knows …"(G2)

While conditioning might refer to habitual shopping behaviour, Simmons, Talbot and Kaplan (as quoted by Ebreo *et al*, 2009:113) found that consumers were not likely to change their shopping behaviour, especially if it was inconvenient or unfamiliar. This indicates that if shopping for environmentally friendly apparel is perceived to be difficult, the likelihood of consumers purchasing it weakens.

When asked whether they would consider buying environmentally friendly clothing, the participants stated that they would if it appealed to them. However, participants also mentioned that the environment is not an aspect they find important or use as selection criterion when making decisions regarding clothing. This indicates that apparel needs to fulfil the product attributes consumers deem

important, as proposed by Eckman *et al* (1990:13), and that consumers should be provided with enough information in order for them to understand the importance of the environment in their individual purchasing decisions:

> *"... if I'm wearing a top, the one is eco-friendly and the other is not and they look exactly the same like … don't really care …" (D3)*

As can be gathered from the above, several contextual barriers exist which may inhibit the purchasing of environmentally friendly apparel. These barriers could include the aesthetic appeal of the garment, the economic aspects related to purchasing an environmentally friendly item, the lack of availability and exposure which these products are afforded, the lack of knowledge and information pertaining to the environmental impact of apparel, the perceived consumer ineffectiveness, and their established buying habits. In summary, it would seem that the participants prioritised aesthetics, fit and price above other attributes, including the environmental impact of the product. It shows that environmental attributes are not considered or deemed important enough in general decision-making, even though participants acknowledged that they were concerned about the environment.

5.5 SUMMARY

This chapter presented the results and findings of the research. These findings include the indication that young female consumers do possess general environmental knowledge, but do not apply such knowledge in their apparel purchase decision-making process. The results also indicate that no single information source had a significant impact in changing young female consumers' apparel purchasing decisions. However, certain situational influences and contextual barriers emerged that could prevent young female consumers from applying environmental knowledge and information in their purchasing

decisions. In **Chapter 6** the results and findings will be interpreted and discussed in detail. The limitations of the study as well as suggestions for future research will also be discussed in the next chapter.

CHAPTER 6

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

In this chapter the conclusions, implications and recommendations regarding the findings are made, based on the objectives and sub-objectives of the study. The study is evaluated in terms of objectivity, trustworthiness of the data, and data collection methods. The possible contribution of this study to manufacturers, retailers and marketers is also discussed.

The aim of this research was to study the role of young female consumers' knowledge of environmental issues and their exposure to information sources in their selection and evaluation of environmentally friendly apparel. As mentioned in **Chapter 1,** the impact of the clothing and textile industry on the environment is significant. Therefore consumers' knowledge about the impact of the clothing and textile industry on the environment is critical for reducing future environmental damage caused by the overall clothing and textile supply chain. The way consumers use knowledge and the extent to which exposure to information sources impacts on their apparel purchasing decision was the starting point of this study. Through analysis of the internal thought process of consumers as they underwent the process of decision-making, some variables and criteria that influence the consumer's final environmentally friendly apparel decision were discovered (Cant *et al*, 2006:205).

Empirical evidence regarding consumers' evaluation and selection of environmentally friendly apparel is imperative if marketers are to succeed in promoting such products. The focus of marketers and retailers should be to optimise the role of information sources to increase consumers' knowledge about

environmental problems, causes, and consequences and general facts and concepts about environmental problems. Based on the findings of this study recommendations can be made about how to optimise the use of information sources and ultimately contribute to consumers' positive evaluation and choice of environmentally friendly apparel products.

The research objectives were formulated from the literature review conducted in **Chapter 2**. The research objectives, sub-objectives and conceptual framework formed the outline for the interpretations and implications of the findings. To recapitulate, the conceptual framework was set as reference point for the discussion. A revised conceptual framework will be discussed later in this chapter.

In the past a substantial amount of research has focused on environmentally friendly products, especially within the context of more developed First World countries, but few of these studies have directed attention on apparel products or the South African context. The goal of this study was to explore the role that environmental knowledge and exposure to information sources about environmental issues plays in young female consumers' apparel choice and their evaluation thereof. The analysis of the data produced a broad range of findings that may be of interest to several role players in the apparel industry. It is, however, important to remember that since the sample was non-probable and the main goal of the study was to explore and describe, results cannot be generalised and are only applicable to the participants of the study.

6.2 THE ROLE OF ENVIRONMENTAL KNOWLEDGE ON THE APPAREL BUYING DECISION

The first part of objective 1 was to explore existing levels of general environmental knowledge that participants already possessed. According to

Haron *et al* (2005:429), environmental knowledge is defined as the "ability to recognize environmental problems, the causes and consequences of such problems including facts and concepts necessary for explanation of it". Based on this definition, participants had a substantial degree of general environmental knowledge, as they were able to identify most of the key environmental problems currently facing South Africa, including the causes and eventual consequences of such problems. Problems that were identified included pollution, waste generation, depletion of natural resources and global warming, which according to Freemantle (2009:6) are the main environmental problems currently facing South Africa. From this the assumption was made that the participants possessed a fair amount of general environmental knowledge.

The second part of the first objective dealt with the question whether young female consumers use their environmental knowledge in their apparel buying decisions. It has already been established that consumers use different product attributes to a different degree in their evaluation of apparel products (Brown & Rice, 2001:38; Eckman *et al*, 1990:13). These product attributes include both intrinsic and extrinsic attributes. According to Ebreo *et al* (1999:115), consumers use many product attributes in their evaluation of apparel and the environmental attributes are not always considered. The importance of different attributes varies from consumer to consumer as factors such as values, attitudes and demographics also have an influence (Eckman *et al*, 1990:13).

Participants varied in their prioritisation of product features, but most considered price the most central attribute. This indicates price sensitivity, which is according to Jin Gam, Cao, Farr and Kang (2010), an important factor in consumers' willingness to choose environmentally friendly apparel. However, sample selection might have contributed to an increased level of price sensitivity, as all the participants were students with limited income. The participants also mentioned other important attributes, such as care, comfort, style, fashionability and aesthetics. The projective technique used for data collection might have an

influence on the attributes participants named as important. The projective technique only used pictures of garments and participants could not evaluate certain attributes such as the tactile quality of the garments. This, in turn might have caused participants to rely more on visual attributes such as aesthetics while completing the projective technique exercise.

Even though the participants do possess general environmental knowledge it appears that they did not use this knowledge in their apparel selection. This supports the studies of Joergens (2006), Haron *et al* (2005) and Vermeir and Verbeke (2006), which suggest that even though consumers possess degrees of environmental concern and knowledge and indicated that they believed the environment should be considered, this is not always the case in their buying decisions.

A possible reason could be that the participants' environmental awareness and knowledge pertaining to the actual production and supply of environmentally friendly apparel in the South African context was very limited. A distinction should therefore be drawn between a general environmental awareness and more specific task-oriented knowledge, which includes an understanding of a product's environmental attributes. This lack of task-oriented awareness and knowledge is attributed to the inadequate provision of information by relevant stakeholders within the fashion-textile supply chain and the limited availability of environmentally friendly apparel within the South African retail sector.

For future research it is recommended that task knowledge relating to apparel also be explored, as it seems task knowledge would have more of an effect on apparel decisions than general environmental knowledge. A quantitative scale can be developed and used in future research to obtain a precise measure of the environmental knowledge and task-related knowledge that consumers possess.

These results suggest that in order for environmentally friendly apparel to be profitable to retailers, the retailers need to develop a product that meets the requirements of the consumer. Also, these products will need to be marketed, as consumers need information and knowledge to make a better environmental choice. This might in turn also influence the demand for environmentally friendly apparel, and make cleaner and sustainable production viable to manufacturers. By educating consumers on how apparel impacts on the environment, consumers may also be more willing to change their buying behaviour. However, before buying behaviour can be changed environmentally friendly apparel needs to fulfil other product requirements consumers may have.

Barclay (2007: 63-67) has some recommendations and suggestions on raising awareness and educating consumers on environmentally friendly apparel products. These recommendations include: media and marketing campaigns, getting educational institutions involved, including students entering the textile and apparel industry, training and raising awareness in the textile and apparel industry and the use of an eco label, as the development and implementation of a standard eco-labelling scheme in South Africa can be a very important tool for consumers to identify and recognise environmentally friendly apparel (D'Souza, 2006: 168, 170).

6.3 ENVIRONMENTAL INFORMATION SOURCE INFLUENCE

The second part of the study was concerned with the influence that information source exposure has on young female consumers' apparel buying behaviour. The literature (Solomon & Rabolt, 2004:365; Sproles & Burns, 1994:197-200, 267-273; Huddleston *et al*, 1993:26; Eckman *et al,* 1990:13; Beal & Rogers, 1957:630-632) generally distinguishes three main categories of information sources, namely:

- marketing and media,

- product and labelling, and
- interpersonal sources.

Participants were exposed to a form of information (i.e. magazine article, DVD or product labelling) and were asked to select one garment out of a possible three. Based on the findings of this study it would seem that exposure to environmental information in the form of the above-mentioned media sources has limited impact in changing the participants' general apparel buying decision process.

According to Brown and Rice (2001:38) and Eckman *et al* (1990:13), consumers generally use intrinsic and extrinsic apparel attributes when evaluating an apparel product. While the environmental aspects of a garment should also be taken into account when making purchasing decisions, it seems that this is rarely the case. Young female consumers consider aesthetics, fit and price of an apparel product more important than any other apparel attributes. Participants in this study indicated that they do possess some amount of environmental concern; however, this environmental concern does not convert into environmentally friendly consumer behaviour. This finding supports the findings of other studies, including (Mainieri *et al*, 1997:200) and Pickett-Baker and Ozaki (2008:282), who found that environmental beliefs do not lead to environmental behaviour.

From the participants' statements it can be presumed that the participants do not find all product attributes equally important, but use only some of the attributes in their evaluation. The results suggest that the participants consider the aesthetics, fit and price of an apparel product to be its most important attributes. It also appears that environmental attributes of a product are not generally considered, even though the participants indicated that they do care about the environment. This implies that even though a consumer may wish to act in a pro-environmental way, this is not always possible as certain other product attributes are more important than the environmental attributes of the apparel item. According to

Eckman *et al* (1990:19) and Fiore and Damhorst (1992:175), aesthetics is one cue consumers find important and use to evaluate apparel quality. It is important to remember that the quality of a product is subjective depending on the degree to which it satisfies the consumer's need (De Klerk & Lubbe, 2004:4). It is therefore important to consider the consumer's expectations when environmentally friendly apparel product development takes place.

The results do suggest that there were two instances where information source exposure did have some influence. When asked to make her garment selection one participant noted that she preferred another garment, but that she didn't select it because it was made in Lesotho. This participant was shown a DVD about a denim factory in Lesotho and the implications the manufacturing process has on the environment. While this participant did not select the garment that was produced in Lesotho, she also did not select the more environmentally friendly garment of the three.

From this, we can derive that even though the information source had some influence, it did not provide enough information to the participant to make the most environmentally friendly apparel choice. This indicates that information should be detailed and relevant. Also, different information sources need to work in conjunction with each other as the different information sources perform different and complimentary soles to each other (Sproles & Burns, 1994:260). It can be suggested that if this participant had been exposed to both the DVD and product labelling, she might have selected the most environmentally friendly garment. According to Rahbar and Wahid (2011:76), the objective of green marketing is to influence consumers' behaviour by encouraging them to buy pro-environmental products. In order for this to happen, the product as a whole needs to be marketed through different marketing media, including product labelling.

The other instance where there was some influence was in a group that was exposed to product labelling. The participant selected the most environmentally friendly shirt; however, according to her she made her decision based on other attributes and the garment being environmentally friendly was just an added benefit for her. It is possible that the product labelling made it easier for her to identify the most environmentally friendly item. Also, it can be argued that this participant possibly already had some form of prior knowledge related to the environmental impact of apparel, which refers to task knowledge (Thøgersen (1994:156). According to Pickett-Baker and Ozaki (2008:282), the average consumer has very little opportunity to form an opinion regarding environmentally friendly products, unless they make extra effort to obtain the information. As some of the participants stated, they were unaware of environmentally friendly apparel, as it is not marketed effectively. Suggestions made by participants included marketing using short, credible advertisements on television, visual displays in magazines and in-store posters and pamphlets.

From all of the above, it appears that even though the participants were exposed to environmental information sources and they did express some environmental concern, attributes related to the environmental consequences did not feature as primary considerations in their apparel buying decisions. However, one could argue that participants did not possess the relevant knowledge to make an informed decision, as Thøgersen (1994:157) suggests. Also, apparel is difficult to evaluate as many different factors influence the environmentally friendliness of a garment and some form of eco-labelling or eco-branding is necessary to make it easier for consumers to evaluate the impact apparel has on the environment. Eco-labels would provide consumers with information about intangible product attributes (such as the environmental impact of the garment), and would make it easier for them to identify and purchase environmentally friendly products (Rahbar & Wahid, 2011:74). The implications are that environmentally friendly apparel must have more prominent labelling in order for consumers to identify environmentally friendly products more easily. A lack of marketing exposure

should also be addressed to increase awareness of environmentally friendly apparel.

It seems that none of the information sources that were used in the study had a significant impact on the participants' garment choice. However, the participants did mention that if a friend or family member recommended or talked to them about environmentally friendly apparel, they would consider purchasing it. According to Pickett-Baker and Ozaki (2008:282), the main influence for purchasing food and household products is word of mouth. The same might be true for environmentally friendly apparel, and further investigation is needed. For future research it is strongly recommended that the role of interpersonal information sources on environmentally friendly apparel purchasing behaviour be explored.

The results also suggest that the participants used store image to guide their decision-making. While the literature (Solomon & Rabolt, 2004:446; Eckman *et al*, 1990:13) suggests that consumers use store image and positioning as a cue to ease their apparel shopping, further research may be necessary to explore the role store image plays in environmentally friendly apparel marketing messages. It is also crucial to investigate the role of information sources, as this will increase awareness of environmentally friendly apparel products, ease consumers' identification of environmentally friendly apparel, and consequently guide consumers into purchasing such products (Rahbar & Wahid, 2011:74).

The goal of the second objective was to explore how environmental information sources influence the young female consumers' apparel decision-making. The results suggest that no information source had a significant impact on young female consumers' buying behaviour. The participants were exposed to environmental information regarding apparel, providing them with relevant task knowledge. However, even after information source exposure, the participants still did not use environmental knowledge when choosing a garment. It appears

that the participants also used certain other cues, such as store image, when making their decision. Using actual garments provided participants the opportunity to select a garment based on the attributes they would normally consider when shopping for apparel.

As a derivative of the qualitative research process, certain situational influences and contextual barriers emerged that participants saw as preventing them from applying environmental knowledge and acting with more pro-environmental intent in their purchasing decisions. Although exploration of these aspects did not form part of the initial objectives of the study, they were incorporated into the findings based on the contribution such data offers toward a more enhanced understanding of the issue in question.

6.4 BARRIERS TO PURCHASING ENVIRONMENTALLY FRIENDLY APPAREL

While it seems that information sources regarding the environmental issues of the apparel manufacturing process did not have a significant impact on the participants' garment choices, it emerged that certain barriers exist that prevent young female consumers from actively purchasing environmentally friendly apparel. According to Hiller-Connell (2010:279), the identification and elimination of barriers to environmentally friendly apparel purchasing behaviour is crucial.

6.4.1 Barrier 1: The relevance of non-environmentally related product attributes

In general, participants considered a wide variety of factors in their selection of apparel, but **aesthetics** seemed to be an important factor when selecting apparel. Young female consumers evaluate apparel products based on the

aesthetics, such as colour, style and fashionability. Some of the participants had the perception that environmentally friendly apparel products were not fashionable or appealing. This is a similar barrier as was found by Hiller-Connell (2010). In the study conducted by Hiller-Connell (2010:282), it was found that the general perception was that environmentally friendly apparel was less stylish than regular apparel, even though this is not always the case.

Another product attribute that the participants mentioned was the **price** of environmentally friendly apparel. The participants indicated that they believed environmentally friendly apparel to be more expensive than regular apparel and they were not always willing to pay a higher price for an environmentally friendly garment. In the literature certain studies, such as Butler and Francis (1997:84), also indicated that consumers were not willing to pay more for environmentally friendly products. It did emerge that the sample in this study was very price-sensitive, but this might be due to them being students with a limited budget.

Furthermore, apparel fulfils an **emotional need** for young female consumers. Sometimes they would just “fall in love” with an item and just have to buy it. This indicates that apparel should fulfil all the needs a consumer has regarding a product, may it be aesthetically, physically or emotionally before they will actively purchase environmentally friendly apparel. For retailers and manufacturers this translates into developing environmentally friendly apparel, which appeals to the consumer and is at a price comparable to other apparel products.

Joergens (2006:370) found that the appeal of the apparel in question is the strongest predictor of purchasing behaviour. It is therefore recommended that manufacturers and retailers provide consumers with apparel that meets the consumers needs in terms of product attributes, such as fashionability, style and price.

6.4.2 Barrier 2: Availability of environmentally friendly apparel

Another barrier that emerged was one of availability of suitable environmentally friendly apparel products. Young female consumers seem to feel that environmentally friendly apparel is not freely available and they do not want to go out of their way to purchase environmentally friendly apparel. If environmentally friendly products dominated the market, consumers would probably purchase it as they do not have to go out of their way to find suitable products.

In the literature, Joergens (2006:369) and Brown and Wahlers (1998) state low or no availability of environmentally friendly apparel that suits the consumers' aesthetic needs as a possible barrier to consumers purchasing such products, but the study indicated that it was still doubtful whether consumers would truly purchase these alternatives even if they were available (Joergens, 2006:360).

The availability of environmentally friendly apparel can also be linked to the exposure and marketing of such products. Some participants indicated that they were not aware of environmentally friendly apparel. This indicates that consumers should be made aware of environmentally friendly apparel as well as retail outlets where they can find such products.

6.4.3 Barrier 3: Lack of knowledge

Lack of knowledge and information about the environmental impact of apparel emerged as an important barrier for young female consumers. In terms of this study this is quite an important point as environmental information sources were explored. The participants lacked understanding of the links between apparel and the environment or the consequences related to the production, distribution, use and disposal of apparel.

Even apparel experts are said to find it difficult in some instances to visually assess physical attributes accurately when making a purchasing decision (Chen-Yu & Kincade, 2001:33). The apparel manufacturing process and supply chain is complex and involves many different processes. This makes it extremely difficult for a normal consumer to comprehend the environmental impact the product has as many different factors influence how environmentally friendly an apparel product actually is. These factors include the country of origin, the fibre content, the dyes used, as well as the dyeing process and other wet processes. Consumers may think that their choices are better for the environment, while it actually may not be. Also, some factors are difficult to measure, such as purchasing an apparel item made from environmentally friendly fabric sourced from the East, or purchasing a locally made garment made from regular fabric. The entire life cycle of apparel needs to be evaluated in terms of the environment, as all the stages in the supply chain have an impact on the environment (Dickson *et al*, 2009:250). The different stages add to the complexity in the evaluation of apparel at the point of sale.

Very few people actually possess enough knowledge to evaluate and make the best environmentally friendly choice each time when purchasing apparel. However, consumers should not be exposed to too much information as this might confuse them and they might dismiss or discard some or all the information then (Solomon & Rabolt, 2004:218). Controlling the information flow is therefore necessary (Solomon & Rabolt, 2004:357). Consumers may not be aware of the environmental implications of apparel products, but by providing relevant, well-directed information, consumers would be able to make more informed choices (Laroche *et al*, 2001:503-520; Davis, 1993:19;). All these factors lead to the suggestion that consumers should be provided with enough and relevant information, in order for them to possess enough task knowledge to consider making an environmentally friendly apparel choice, even though it might not be the best environmentally friendly choice. It might also be of interest to make this

whole decision-making process less complex by introducing an environmental certified label to indicate which products are environmentally friendly.

6.4.4 Barrier 4: Perceived consumer effectiveness

Perceived consumer effectiveness relates to how much a consumer believes their personal efforts can make a difference (Vermeir & Verbeke, 2006:175). Participants expressed the view that they did not believe that their individual consumption choices would make a difference. To overcome this barrier will involve changing the mind-set of certain consumers through marketing. However, more research is required relating to perceived consumer effectiveness and apparel purchasing behaviour.

It is recommended that manufacturers and producers of such apparel invest in marketing environmentally friendly apparel as this could be helpful in creating awareness and educating the consumer. This is an important step in changing consumer behaviour to be more pro-environmental as Vermeir and Verbeke (2006:175) suggests. According to Vermeir and Verbeke (2006:175) a consumer must be convinced that their behaviour has an impact. Marketing strategies can focus on the impact each individual has.

6.5 REVISED CONCEPTUAL FRAMEWORK

The initial conceptual framework (Figure 3.3) was revised to include the barriers preventing consumers from purchasing environmentally friendly apparel products. The revised conceptual framework is set out below:

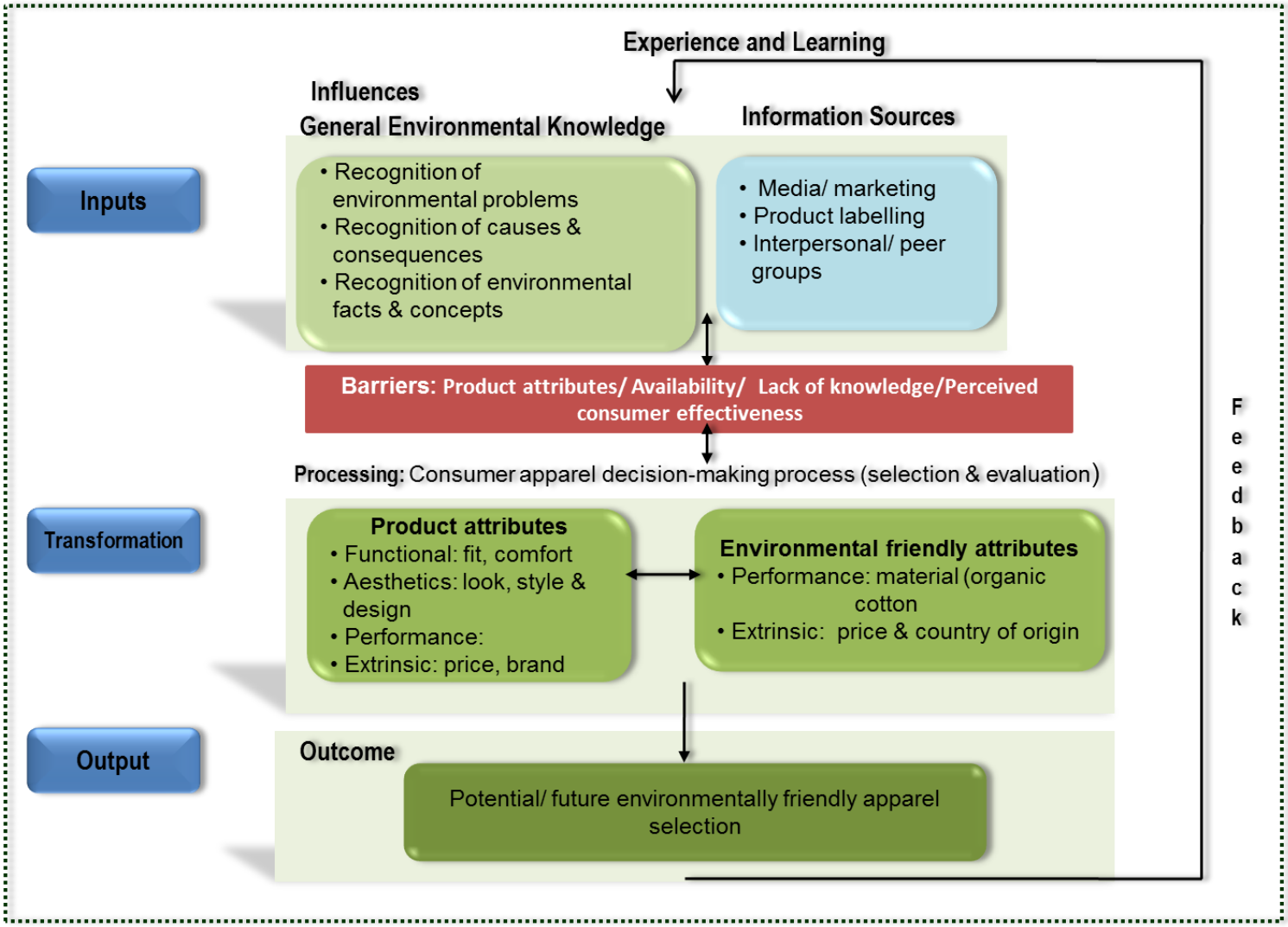


FIGURE 6.1: REVISED CONCEPTUAL FRAMEWORK: A CONSUMER DECISION-MAKING MODEL

The revised conceptual framework still shows the consumer decision-making process as the main process, with environmental knowledge and information as the inputs. The transformation stage is the cognitive interpretation of the inputs. However, certain barriers exist that prevent environmental knowledge and information to be used in the evaluation of apparel. These barriers include the relevance of other non-environmentally related product attributes, the availability of environmentally friendly apparel products, a lack of knowledge and perceived

consumer effectiveness. The final outcome is the choice of apparel be it environmentally friendly or not.

In order for a pro-environmental apparel choice to be made, the barriers need to be bridged and only then will consumers purchase environmentally friendly apparel. By providing more relevant and applicable information regarding environmentally friendly apparel to the consumer and providing them with suitable apparel products, the barriers might be overcome and consumers may actively start purchasing environmentally friendly apparel. From their purchasing decisions they will then obtain experience and this experience will be fed back into the system and possibly facilitate the consumer in searching for additional information relating to environmentally friendly apparel.

6.6 IMPLICATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Although the findings of this study cannot be generalised, it does provide a useful platform from which to embark on further quantitative studies. While the results seem to indicate that environmentally friendly apparel has not yet gained full acceptance in the South African market, it is imperative for apparel manufacturers, retailers, marketers and researchers to continue searching for appropriate means to promote these products in the quest for a sustainable future.

Further studies may want to focus on developing a scale to quantitatively measure participants' rating of environmental attributes in relation to other apparel attributes. It is also recommended to incorporate sample groups with diverse demographic profiles for future research, as certain demographic variables may have an influence on environmentally friendly consumer behaviour in South Africa, although studies abroad have found inconsistencies (Chitra,

2007; Fraj & Martinez, 2006; Solomon & Rabolt, 2004, 359; Straughan & Roberts, 1999).

The level of task knowledge pertaining to apparel decision-making was also not explored. According to Thøgersen (1994:156), task knowledge is necessary for certain goals to be reached or an intended action to be performed. For future research it is recommended that relevant task knowledge should be measured or explored.

Relating to information sources, if the study is duplicated, the information given to participants may need to be more relevant to the actual garments that participants choose from, such as how a T-shirt is produced if they have to select a T-shirt. In this study there was no incubation period for the information and this might have affected the results. For future research this can be corrected by exposing participants to information relating to environmentally friendly apparel and then after an incubation period, conducting the focus group session.

It can also be suggested that a combination of information sources be tested in future, such as maybe a form of popular media and product labelling. Also, future research can look into an effective mix of marketing strategies of environmentally friendly apparel, as Vermeir and Verbeke (2006:175) stated that environmentally friendly products are inadequately marketed. The correlation between store image and environmentally friendly apparel purchasing behaviour should also be investigated further.

Actions that participants already take regarding environmentally friendly behaviour should also be explored in conjunction with other concepts. Also, it might be wise for the researcher to obtain information about the perceived threat of environmental problems for participants, as Abdul-Muhmin (2007:238) and Rousseau and Venter (2001:1) suggest that perceived threats might influence environmentally friendly behaviour. This might give a clearer and broader picture

of how environmental aspects, including knowledge and perceived threats, impacts on consumers' buying decisions in the apparel sector, as well as in other industries.

One of the limitations to this study was that only knowledge and information source exposure were explored as inputs in the apparel decision-making process. Humans are complex beings and different inputs will influence their purchasing decisions. Other influences such as values and beliefs also influence purchase decisions and many studies have explored the different inputs into environmentally friendly consumer behaviour. It is important to note that this study focused on two influences only, namely environmental knowledge and information source exposure. It is therefore recommended that future research should incorporate other variables, which may also impact on the consumers' decision to engage in pro-environmental action and to establish the relevance of each variable as it applies to the specific behaviour in question. Also, barriers that prevent consumers from acting in a pro-environmental way should be explored further.

6.7 CONCLUSION

While the results seem to indicate that the market for environmentally friendly apparel has probably not yet gained full momentum, it is crucial for the survival of the planet and the human race that manufacturers, retailers, marketers and researchers continue developing these products and find ways to promote them to the mass market.

It appears that even though young female consumers do possess a fair amount of general environmental knowledge, they do not apply this knowledge as an input in their apparel decision-making process. This may be attributed to the fact that they do not associate the implications of their own behaviour with the

broader environmental consequences and therefore lack relevant or task-related knowledge about the impact of their clothing choices on the environment. Even after exposure to information sources, the participants still did not use the information as an input in their apparel decision-making process. It can therefore be said that young South African females' knowledge about environmental issues and exposure to information sources do not reflect in their choice of apparel products as certain other product attributes are more important to them.

There are also other barriers except the relevance of non-environmental product attributes that prevents young female consumers from using environmental information and knowledge in their apparel product purchase decision. These barriers are availability of suitable product, a lack of knowledge and perceived consumer effectiveness. Manufacturers, retailers and marketers need to work together to overcome these barriers and further research is needed to explore methods of overcoming these barriers.

Although it would seem that consumers do not consider the environment in their apparel buying decision process, it is still important for manufacturers to look into further developing and producing these products. If these products are marketed effectively, environmentally friendly apparel may start to become an important part in consumers' apparel buying decision-making. To effectively market these products, it is suggested that a variety of information sources should be used in conjunction with each other. Also, for environmentally friendly apparel it is important for the designers, manufacturers and retailers to remember that the garment must be comparable to other non-environmental options in terms of aesthetics, functionality and performance, as well as extrinsic properties such as price. In a non-apparel related study, Chitra (2007:177) found that environmentally friendly purchases usually involved a compromise, which could be in the form of higher prices, lower performance or consumers having to go out of their way to find suitable products. This should not be, as it is clear from the

findings that environmentally friendly apparel should be comparable and competitive with normal apparel.

Future research is needed to investigate the effect of information sources and environmental knowledge on consumers, especially in the South African context. Also, further research needs to focus on the barriers preventing consumers from using their environmental knowledge and information sources as inputs in their apparel buying decisions.

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ADDENDUM A: Environmental Knowledge Essay

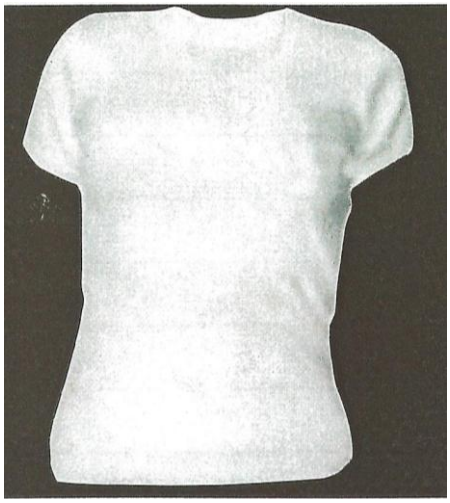
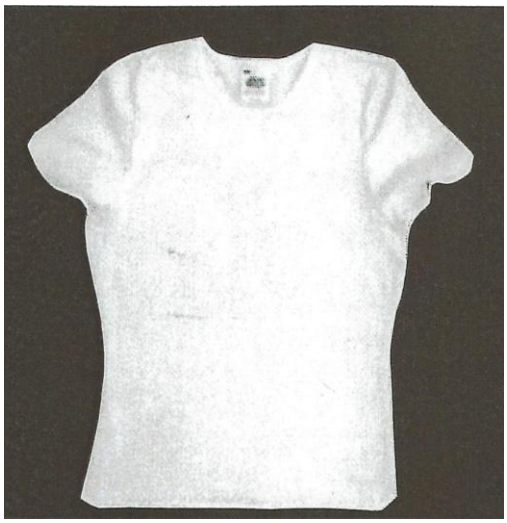
1. In your opinion, what are the biggest environmental problems in South Africa currently?

2. In your opinion, what are the causes of these problems?

3. In your opinion, what are the consequences of these problems?

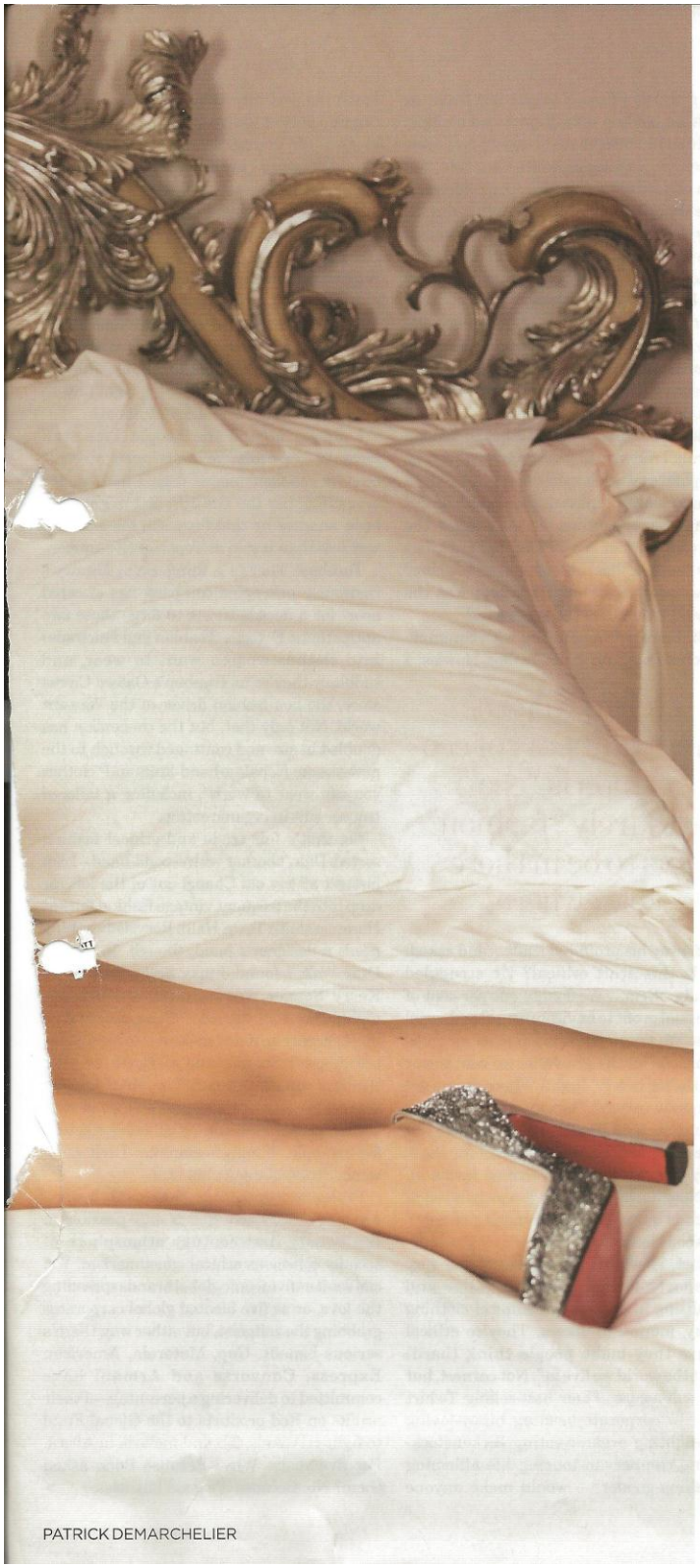
ADDENDUM B: Projective Technique

One of your friends goes shopping in search of a plain T-shirt. She has narrowed it down to three very similar shirts (colour and style). The care label, price and fibre content for each shirt are listed below. Which one do you think she will choose and why do you say so? What else, do you think, will she consider in her buying decision?

Shirt 1: R95.95 100% Cotton Luke warm wash Do not bleach Warm iron Dry Cleanable Do not tumble dry *Made from imported fabric*	
Shirt 2:R99.95 100% Organic Cotton Machine washable Do not bleach Warm iron Do not dry clean Do not tumble dry *Made in Mauritius from imported fabric*	

Shirt 3: R89.95 100% Polyester  Hand wash  Do not bleach  Do not iron  Do not dry clean  Do not tumble dry *Made in China*	

ADDENDUM C: Article



PATRICK DEMARCHELIER

MORAL FIBRE

The latest wardrobe must-have is a social conscience. Ethical labels, embracing fair-trade production values and materials, are springing up everywhere. But is their style sustainable enough to revolutionise our fashion-buying habits and satisfy our desire for glamorous, chic clothes? Vicki Woods investigates

When I saw the V&A's *Swinging Sixties* show, which celebrates Quant, "throwaway" paper dresses, boutiques, Beatles, Biba and Birtwell, I expected to feel a wave of bittersweet nostalgia. This was my coming-of-age, fashion-wise, and you always love the clothes you first recognised as fashion.

What I didn't expect was to be knocked flat by a thumping great torrent of postmodern guilt. The Sixties saw the start of mass-marketed high-street fashion that everyone could afford, made of excitingly new, cheap fabrics – Orlon, Tricel, Courtelle, Bri-Nylon, PVC – spun out of oil. We had no idea we were stripping the poor planet of its finite energy sources, nor that the yarns were dyed with vicious horror-chemicals that poisoned land, sea, the air we breathed and the garment-workers who toiled on them. We just liked the way our staticky minis kept their stiff, pristine shape.

A mortifying vision of my demurely sexy little Courtelle jersey dress popped into my head. Grass-green! Loved it. And where is it now? Buried deep in landfill somewhere north of Manchester. Unbiodegraded, and – for the next millennium – unbiodegradable. Not "green" at all, for shame >

Look, I apologise! To David Cameron, Al Gore, Zac Goldsmith, Scarlett Johansson – this is a *mea culpa*. I'm sorry I poisoned the planet.

I'm recycling like crazy now, by the way. And I'm making more ethical choices, like the heroic eco-warriors Ali Hewson (Bono's wife) and Rogan Gregory, who launched the Edun clothing range to wrench Africa from poverty, and Katharine Hamnett, who is fighting to turn the world's cotton crop organic to save the cotton-pickers of Uzbekistan from slavery and stop sweatshops around the world. Hamnett is the torch-bearing pioneer of eco-fashion. She was campaigning for "green cotton" way back in the Eighties, but it sounded weird to me. (Green? Why?)

What is eco-fashion, exactly? In three decades of dressing myself, I have barely given it a thought, but now I'm learning. I took a trip to Brick Lane recently – not a browsing haunt, I have to say – to visit an ethical-fashion fair. Outside the Old Truman Brewery were hundreds of people sunning themselves at pavement tables, looking ethical and eating vegetarian samosas. Inside were racks and racks of khaki T-shirts saying: WAR IS NOT THE ANSWER.

The sale took hours to browse, mostly because of the leaflets (all printed on 100-per-cent recycled, recyclable, biodegradeable, certified chlorine-free paper with minimal water wastage). If you need to understand what eco-fashion actually is you have to do much close reading of texts about gender equality in Bangladeshi women's collectives and learn a lot of acronyms (GOTS, IFAT, Ecotex, ILO, FLO, Skal). I finally sorted out that the shorthand term "eco-fashion" means four types of clothing: second-hand clothes, including your vintage Balenciaga; recycled and reworked clothes; or new clothes that are planet-friendly (non-toxic dyes and washes, fewer air miles, less wasteful packaging) and/or people-friendly (fair wages, no sweatshops, no child labour) and maybe animal-friendly (no leather, feathers, fur, animal glues). Most ethical of all are Fairtrade-labelled clothes, which do all the ecological and ethical stuff above (except possibly the no-leather bit).

Plus, Fairtrade fashion companies actively seek to lift marginal communities out of the poverty trap by digging deep into the global supply chain. They wade right in there, partnering farmers, spinners, weavers, hand-crafters and artisans with traditional skills that might otherwise die out. They often act more like an NGO than a fashion company: by paying a rural farming community in advance for its crop, say, or funding social-welfare schemes or planting trees. Fairtrade fashion catalogues often have pictures of (as it might be) Daljit or Kekeletso holding up a T-shirt and smiling. I'm always a little bit conflicted when I come face-to-face with Daljit. She's very thin, but not in a fashiony way. Makes the brain reel.

The thing is, women don't use their brains to buy clothes. The "gotta-have-it" choices we make aren't rational or intellectual, but emotional. We buy frocks and handbags and shoes because we fall in love with them – ooh, I *want* that fabulous thing. Forget virtue, it's desire that drives acquisition, and desire is irrational and primitive. The thrill of making a purchase is almost sexual. You feel your credit card throbbing with lust.

I tried to relive that thrill at the eco-fashion fair, truly. I riffled madly through skirts carved out of plant matter, flax jackets vegetable-dyed in grim colours, earnest nighties stitched out of limp bazaar cottons. Look, I know the important part of eco-fashion is "eco", but surely "fashion" has to be in there somewhere? Where was the cool stuff? Where was the glamour? Where was the sex appeal?

Well, there was a cute boy with Swampy-style dreadlocks on a stall called Howies. I waved away his proffered leaflets and asked: How is this stuff ethical? He struggled helpfully. "Erm… We donate one per cent of our annual profit to environmental and social causes. We try to be as organic as much as possible. As locally grown as we can, to cut down the air miles." Right. Where do you get the organic cotton? "Mostly from Turkey – it's not zero air miles but it's as close as you can get," he replied. And the wool for those snazzy jumpers? "From certified farms in, erm, New Zealand." After a pause, he said: "Which is quite a lot of air miles, actually." I fell about laughing.

> I know that the important part of eco-fashion is "eco", but surely "fashion" has to be in there somewhere?

In fact, Howies is an influential and very cool sports brand, based in Wales and specialising in outdoorsy technical clothing for, say, mountain-bikers. They're ethical because they make people think (hard) "about the world we live in". Not earnest, but coolly self-aware. Their best-selling T-shirt slogan – "corporate-bashing hippy-loving cause-fighting organic-eating Birkenstock-wearing campervan-touring life-affirming do-fucking-gooder" – would make anyone laugh the first time they saw it. I bought an organic cotton skirt – tan, patch pockets, sleek – off young Swampy for a tenner. Reader, I swear – my first consciously ethical fashion purchase ever. Felt quite heady.

Eco-virginity gone forever, I followed up with ethical shoes. No, not plastic. I can't do plastic shoes, not even Stella McCartney's. Natalie Portman wears Beyond Skin's plastic stilettos, even on the red carpet, and Sadie Frost, Chrissie Hynde and Phoebe Philo wear them too. Me – I bought Terra Plana shoes in ethical leather. They show a designer's hand and I'm typing right now in hand-sewn pink flats called Mumbai.

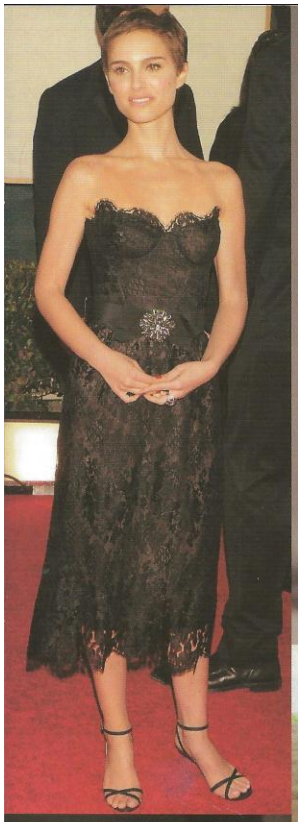
I almost missed the People Tree stall because the rails were stripped already. Savvier eco-fashionistas than I had bagged everything bar the size 16s, or I might have been tempted by that little silk tea-dress for way less than it sold at Topshop all summer.

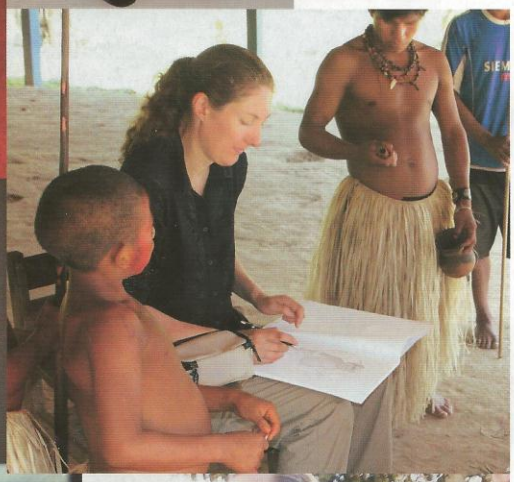
Topshop! There's a thing. Safia Minney's rigorously principled company has sweated away for a decade trying to forge those two antipathetic F-words (Fashion and Fairtrade) into clothes women want to wear, and suddenly they're in Topshop's Oxford Circus store, the fast-fashion driver of the Western world. Not only that, but the concession has doubled in size and continued through to the new season: Nepalese hand-knits and "clothes you can wear to work", including a tailored trouser suit in organic cotton.

So, that's fair trade and ethical fashion sorted. Didn't bother with second-hand – I can just get all my old Chanel out of the loft (or drop into the frequent vintage fashion fairs at Hammersmith Town Hall). Recycled clothing needs a designer's hand, though. In [illegible] Dray Walk I found Junky Styling. Designer Kerry Seager was cradling a Fairtrade nightgown from the sale. "I'm going to do a bit of surgery on it and make it into a gorgeous tea-dress." Seager and partner Annik Sanders can do "surgery" on anything you give them – a twisty Vivienne Westwood-style weskit/corset reworked out of men's silk ties, for example. Finally – glamour. I felt quite weak. Street-glamour, but still.

Project Red is glamour. Not exactly fashion and not exactly eco, Red is only possible in the twenty-first century atmosphere of socially conscious ethical consumerism. You can see it as five iconic global brands spreading the love, or as five bloated global corporates grabbing the zeitgeist, but either way, there's serious benefit. Gap, Motorola, American Express, Converse and Armani have committed to delivering a percentage of their profits on Red products to the Global Fund to fight HIV/Aids, TB and malaria in Africa. For five years. Why? Because Bono asked them? No. Because it's good business. >

MATTHEW DONALDSON





Far left, Natalie Portman wears Beyond Skin's plastic shoes even on the red carpet. *Left*, Edun, the fashion label started by Bono and his wife Ali Hewson alongside designer Rogan Gregory, has brought the issue of sustainable production in Africa to the catwalks. *Below*, the special-edition Converse high-tops – made with African mud cloth – designed by Giles Deacon for Project Red

Above, designer Katharine Hamnett has been championing ethical fashion for decades. She is currently urging everyone to buy at least one organic-cotton garment a year. *Above right*, to create her "ecoture" dresses for Aveda, designer Deborah Milner spent two years in South America researching ethical fabrics. *Right*, Giorgio Armani with Bono at the World Economic Forum in January to launch Project Red

Bobby Shriver, the American blue-blood and latter-day saint who runs Red, says he always hoped that the companies would clock that "doing the right thing about Aids in Africa" would turn out to be a competitive business advantage for them. Big companies get tapped all the time for charity projects: the ball, the sponsorship junket, the T-shirt. But Red is not a one-off. Shriver: "A lot of the companies, when we went to them in the beginning, were saying to us OK, we'll do the T-shirt line – we'll give you 100 per cent of the money, we don't want any of the money. And we were saying No, no – you gotta keep the money! Because that's what'll keep you doing it. We know that if you do our T-shirt, we get *x* money and then you're gone. We want you around for a long, long time."

Gap, a label I've never worn in my life, presents me with their Project Red launch T-shirt and tells me firmly that it's not organic, not Fairtrade and not "green". However, the cotton is sourced from sub-Saharan Africa and manufactured in Lesotho, where Aids/HIV is running at 40 per cent of the population. It's a lovely T-shirt, washed out and vintage-looking, the first item in a broader collection to follow. All the Red products are very desirable. Scarlett Johansson, the face of Red for Emporio Armani, likes Giles Deacon's trainers a lot: "Converse are making these great sneakers out of African mud cloth – and they're awesome. By using a small village where people are making this cloth with their hands, you're supporting an economy right there by buying a pair of sneakers."

The Motorola Red phone, as slim as a Smythson wallet, is an object of utter, total, fierce desire (and I hate mobiles). I thought I would pass up the American Express card, but Bobby Shriver wouldn't let me. "But women over 30 are the number one target for Amex in the UK! I want you to do me a great personal favour – just run online right now and sign up." But I don't use Amex – it's a blokey businessman's card. "Amex is panting for you! Just give 'em a little break! Have you seen the back of the card? It says 'This card is designed to EL-IM-IN-ATE Aids in Africa', that is pretty damn exciting, don't you think? Check it out, girl!" Sigh. I checked it out. It's very flash. Bobby – I signed.

Red is easy to love: iconic brands make objects of desire, and you want one. Aids in Africa adds a nice tick in the social-conscience box, if you care; if you don't, it still works. That's how it was planned. Red does the thinking for you.

Are the high-street biggies also trying to do the thinking for us, or are they just lumbering onto a rolling bandwagon? As the grumbling noises about how cotton is the world's wickedest crop become deafening,

more and more of the brontosaurus retailers are popping up with "organic" bits and bobs: Asda put out a few organic-cotton baby clothes last year; Marks & Spencer launched a (tiny) range of organic-cotton knickers and T-shirts in March (their spokeswoman told me it was tiny because "we'd bought up all the Fairtrade organic cotton we could"). It's mostly sold out as I write, but they're "committed" to sourcing more. Oasis had a Future Organic line out this summer; Dorothy Perkins launched O for Organic in July. Dorothy Perkins? Ethical? They're not even in the Ethical Trading Initiative!

The ETI is a government-sponsored body set up just under a decade ago after all that bad sweatshop publicity for Nike and Gap. Companies who sign up to the ETI have to [illegible] themselves to address workers' rights [illegible]out their long, complex, outsourced supply chains. Those who have so far pledged include Monsoon, New Look, Next, Levi-Strauss & Co, Marks & Spencer, The Body Shop, Gap, Debenhams, Asda, Tesco. Hmm. How do they enforce these pledges? "We don't," says ETI media-relations manager, Julia Hawkins. "We're not a regulatory body, nor are we a campaigning organisation. We're a multi-stakeholder initiative. In a horrible jargon word." Indeed. So can I assume, when I buy a skirt at Next, that I'm buying an ethical garment? "The short answer is no. The long answer is that you're buying from a company which has made a long-term commitment to addressing workers' conditions."

I like eco-fashion when you can fall in love with the fashion and take the eco-factor as an add-on. Smaller designers, such as Juste, [illegible]ore, Sari and Worn Again, have [illegible]ent takes on the huge ethical and environmental issues that dog their industry. Peter Ingwersen at Noir does razor-sharp tailoring: one very sexy bumfreezer tuxedo has a silk lining just as far as it shows and where it doesn't show it's organic cotton, grown for him in Uganda, then spun and woven in Europe. "You can't do everything," says Sarah Ratty at Ciel. "But you can be light green if you can't be dark green." She's an eco-pioneer, but her alpaca knits (sourced from Peru and irreproachably organic) are so lovely you don't really care. Good enough for Cate Blanchett, good enough for me.

Deborah Milner, who studied at St Martins School of Art and the Royal College, grew frustrated with the business of making demi-couture clothes for private clients. In 2001, she upped and went to South America to find a life less "selfish" and was blown away by the natural environment of Brazil, Peru and Bolivia. She's now linked up with Aveda to create couture-quality fabrics that are earth-friendly, ethical and environmentally sound. I know, I know; "sustainability" doesn't exactly sound like sex in the afternoon, does it? But Milner's "ecoture" collection of 11 fabulous red-carpet dresses for Aveda would arouse anyone. They're elemental, like sunset or storms. Beyond romantic. And beyond price.

I drop in on my favourite rag-trader, Robert Rose, who runs Pink Soda, to find out how green he is these days. "We only use natural fibres," he says, pulling a beaded status coat off the rails. "Silk, silk-velvet, wool, cotton, but we don't do it to be green. We just hate cheap and nasty fabric." The coat is hand-embroidered with glass beads, and will sell for around £1,000 retail. Was it embroidered by eight-year-olds? "No," he says. "Twelve-year-olds. Ha ha! Joke! That *so* doesn't happen anymore."

He says everything beaded is made in India and China because nobody else can do it. "There's Lesage in Paris, but I wonder where they get their beading from." So is China the future of fashion? "No," he says. "It's the present. The world has no idea what happens in China. They manufacture for the entire Western world. They can do anything. And if there's a demand for eco goods, then China will be onto it like they're onto everything else."

> "People will pay more for an organic pork chop and they want to know the name of the pig. But they won't pay for clothes"

The price of goods is another thing. We're buying far more clothes, more often and for less than we were 10 years ago. In the Nineties a plain white M&S T-shirt was cheap enough at £7; this summer it was £5. That famous Primark polka-dot dress that became the hit dress of the summer cost £10. It gives me brain-ache to work out that so little can be spent on the design, fabric, manufacture, distribution and packaging of a garment. And don't give me "economies of scale" – this kind of price-gouging keeps a billion workers in fashion and associated trades in penury.

"I hate the idea that the British consumer is cheap," says Lucy Siegle, *The Observer*'s ethical-living columnist. "People will pay more for an organic pork chop and they want to know the name of the pig. But they won't pay for clothes."

I hate cheap, too. I hate rip-off, throwaway, fast-turnaround fashion that's so badly made the charity shops can't recycle it. I'm *so* not interested in a Primark dress for a tenner. I'm with Shakespeare and "costly thy habit as thy purse can buy". Is that ethical?

It's probably just romantic: I fall in love expensively. A much-used line about eco-fashion (especially the hairier, hempen sort) is that you're buying "fabulous clothes that don't cost the earth". This lying pun makes me cross, because it isn't fabulous and most of it isn't fashion. And that line doesn't work for Bamford – a cool, pale temple of a shop – since their exquisite clothing and homewares cost pretty deep in the purse. But everything you pick up makes the heart sing: heavy pleated-silk evening dresses and skirts, nubbly knits in organic cotton and unbleached cashmere, soft baby lambskin jackets vegetable-dyed in pale, pretty colours.

This is not "fast-fashion" by any means. Carole Bamford sources fabrics and objects from across the world. Her khadi cotton, which is wonderfully soft and silky, comes from a village cooperative in India. Her "nomad" cashmere is hand-spun and hand-woven by a small group of artisans on the borders of Mongolia and Tibet.

"But it's important to say that we do like to use and find as much as we can in this country," she says. "There are some very good mills in Scotland and Wales and we use them for hand-woven clothes and sweaters. I think those old mills need support."

Bamford is a natural progression from Carole Bamford's interest in organic food. She opened Daylesford Organic Café in Gloucestershire nearly 20 years ago, and the same philosophy goes into her clothes – from a felted-cashmere baby's bootee to a khadi-cotton blouse. Is it ethical? You bet. The ethics are pre-modern and pre-fast-fashion, and depend on tradition and pride to produce.

Researching this piece has made me think hard about my own buying habits. Fashion is about change, innovation and the thrill of the new, and I spend as much on getting some of that as any other woman in my age-and-wage bracket. But now I'm struck by another kind of change. Take one white T-shirt from any chain store for less than a fiver. Ooh – get three. No – make that six; they're so cheap you can chuck 'em after two washes. To produce one white T-shirt takes 150g of chemical pesticides (that's like a cup of sugar). Cotton is the world's most environmentally destructive crop. Millions of workers are in near-slavery conditions. Katharine Hamnett wants everyone to buy *one* organic cotton garment a year, and I'm up for that, in spades: ordering pyjamas from Greenfibres.com or buying babygros from Hug and Gossypium for my new godson. Can't say I've started walking to the shops yet. But – you know? One step at a time. ■

ADDENDUM D: Garment Choice

SHIRT A	SHIRT B	SHIRT C
R 25.99	R 39.95	R 39.95
97% Cotton/ 3% Lycra	95% Cotton/ 5% Organic Cotton	100% Cotton
Made in Lesotho	Made in South Africa	Made in China
		

ADDENDUM E: Data Analysis

TABLE 1: YOUNG FEMALE CONSUMERS' GENERAL KNOWLEDGE AND AWARENESS OF ENVIRONMENTAL ISSUES

Concept	Sub-concept	Participants' statements
Waste		*A1: ...all the new buildings and factories being built, cause more waste...* *A1: ...no recycling of waste…* *C2: ...one day we will not have anymore place to put the waste.* *C2: The amount of rubbish/waste, such as plastics etc, are also a problem …* *C2: The waste problem …* *F2: Big mining companies and chemical companies excrete their waste ...*
	Littering	*A4: Rubbish which people throw away …* *A2: Littering… there is a huge disregard for keeping the environment clean.* *A3: People need to be educated regarding pollution so that they don't litter.* *A4: ...and the dirtying of natural areas. People throw rubbish in areas that were meant for relaxation and recreational activities.* *C1: I think that litter ... are big problems. There always seems to be litter everywhere and you can see people throwing plastic bottles from their cars.* *C1: People in townships litter quite a lot …* *C4: ...not only is it the dumping in open areas but also the littering.* *D2, D3: Littering* *D2: Littering… people are lazy and negligent so just throw their paper and foil wrappers on the floor…*

Concept	Sub-concept	Participants' statements
		E1: Littering has reduced but it's still a problem… *F1: ... littering everywhere. Despite the bins provided everywhere, people still litter.* *F2: ...through dirt being thrown in water …* *G1: There is too much littering in our country* *G2: ... plastic, tins and waste of all materials are thrown all over the area ...* *H2: If at school, a student is constantly told not to litter; it eventually becomes second nature not to and becomes shocking to see the next person doing it.* *H3: Another problem is that there is littering…* *H4: The littering and dirt in the CBD of Johannesburg Newtown.*
	Illegal dumping	*C4: I would say illegal dumping…* *C4: ...illegal dumping.*
Pollution	**In general**	*A3: Firstly, definitely the most important factor influencing our environment is pollution.* *A1, C4, D2, D3, G1: Pollution* *A1: Pollution is a big problem,* *A4: I think the pollution of the environment …* *F1: One other problem is pollution. There is pollution everywhere.* *F2: I would say that it is pollution in all forms.* *G2: Pollution. All sorts of pollution.* *H4: … pollution is also a big problem in SA.* *C2: ... therefore more needs to be generated, causing more pollution.*
	Air Pollution	*A1: ... harmful CFCs that are also directly linked to pollution.* *A1: ... and more air pollution.* *A1: ... harmful chemicals in the ... air*

Concept	Sub-concept	Participants' statements
		A3: ... the smoke pollutes the air. *A3: ... the smoke and gasses …* *A3: The fact that the air is being polluted …* *C1: I think that ... air pollution are big problems* *C1: There is always dust in the air …* *C2: The pollution is also from the cars …* *C2: The pollution that a person sees hanging over the cities when the wind has not blown in a while.* *C3: The smoke and smog ...* *C4: Then air pollution from our gas cars and big firms.* *C4, D1, F2, G2: Air pollution* *D2: ... we breathe in toxins …* *D2: Pollution ... send a lot of waste gas into the air that poisons our breathable air.* *E1: ... as well as smoking.... especially Johannesburg. It's overpopulated and the air isn't the freshest, it's just full of chemicals we don't know.* *E2: I think is mainly air pollution* *F1: If not air pollution …* *F1: With air pollution …* *F2: Humans burn and pollute the air* *G1: … air pollution is also playing a role …* *H3: First of all I think there is a huge problem of air pollution, especially in the cities.*
	Water pollution	*A1: ... more water pollution …* *A4: Pollution of the ocean and other sources of water. The water is meant to be pure for drinking.* *C3: The state of dams and other water sources also causes problems.*

Concept	Sub-concept	Participants' statements
		G2: ... water pollution … *H3: Recently, I have heard that the Durban waters lost their international blue ribbon ... think its something to do with pollution at the sea … things obviously concerning water pollution.* *A1: ... harmful chemicals in the water …* *A3: ... the ocean is being polluted by oil ships etc.; people pollute the ocean by throwing paper into it without thinking twice.* *D2: ... they end up in the water.* *F2: ... their drinking, washing and bathing water making the water unclean and unusable for the environment and the people themselves.* *F2: Another type of pollution is water pollution.* *F2: ... excrete their waste disposals in dams and lakes ... that pollutes the water ...* *C3: Not only can water pollution kill marine life ...*
	Noise pollution	*F1: it is noise (pollution)* *H2: Noise pollution …* *H2: To my knowledge the biggest environmental problem in SA is ... noise pollution.*
	Land pollution	*A3: ... pollutes the land* *A3: The land gets polluted …* *H2: Land pollution* *H2: Land pollution in the country has been going on for years ...* *H2: To my knowledge the biggest environmental problem in SA is land ... pollution.* *E1: Here ... the polystyrene boxes and cups we get from the student centre … So pollution of that kind is a big environmental problem* *F2: ... excrete their waste disposals ... on land and that ... destroys the land.*

Concept	Sub-concept	Participants' statements
Depletion of natural resources		*D1: Natural resources being consumed more quickly and then it has time to exist/be produced.* *D1: Natural resources may become extinct* *G2: People continue to use excessive ... water supply* *F2: Another problem would be soil erosion ….* *G2: Waste of resources e.g. water resources …*

TABLE 2: THEME – YOUNG FEMALE CONSUMERS' KNOWLEDGE AND AWARENESS OF THE CAUSES FOR ENVIRONMENTAL PROBLEMS

Concept	Sub-concept	Participants' statements
General factors	**Population growth**	*A2: Overpopulation* *A2: The infrastructure cannot handle the size of the population …*
	Urbanisation	*H3: Overcrowding in the CBD, as well as vending are some of the issues that cause environmental problems.* *C2: The cities are expanding so far and so fast that the forests ... are being "taken out"*
	Excessive consumption	*C2: Also the factories producing the goods that we want, but actually do not need …* *C2: People just want more and more ... Bigger houses …*
	Excessive production	*A3: Too many products/goods are produced …* *A3: Factories … produce too many goods …* *A3: ... lots of excess stock* *C4: ... everyone is out to produce more …*
	Ignorance/ lack of knowledge/ unawareness	*G2: People are ignorant …* *C4: ... Ignorance, because people do not want to think and find alternative ways of doing things…* *G1: ... and somehow I don't think people (society) are aware of the impacts of pollution.* *C2: People ... are not thinking of the consequences ...* *G2: ... lack knowledge or just don't know or understand …* *G2: ... because of lack of knowledge …* *G2: Lack of knowledge or education …*

Concept	Sub-concept	Participants' statements
		H4: ... people are not aware that they are contributing to the problem *A2: Uneducated people* *A2: The lack of education creates a ripple effect, which escalates as the generations grow and larger amounts of people don't regard a clean environment of essence.* *A3: The biggest cause of these problems is that people are uninformed about these problems.* *C3: The biggest problems are more from the misunderstanding of the importance of the environment.* *D1: People are not informed about environmental problems and the harm that they are causing* *G2: ... understand the importance of conserving nature and plants and animals.*
	Limited provision of information and a lack of environmental education	*C4: Not enough information or provision given to people on how to treat their huge amounts of garbage.* *H2: The lack of proper exposure also influences a person's behaviour.* *H4: The cause could also be not being informed well or it's not well promoted to educate people about their environment …* *D1: People are not educated on how you combat these problems through recycling, saving water, caring for the natural environment, buying certain products that are more environmentally friendly.* *A5: Pollution happens because people are not educated enough on how it damages the earth.* *H2: If at school, a student is constantly told not to litter; it eventually becomes second nature not to and becomes shocking to see the next person doing it.*
	Egotistical human approach	*A3: Humans are self-centred and don't think about the future.* *F2: The biggest culprit is human beings.*

Concept	Sub-concept	Participants' statements
		H2: I believe these problems are caused by human nature.
	Lack of ecological intelligence and commitment	*A1: ... People also do little to help keep their suburb clean; they just sit back and watch how everything gets destroyed.* *A1: Nobody is planting trees, or trying to cleanse the polluted air/water – nobody is making an effort.*
Factors contributing to pollution in general	**Industrialisation** ▪ **Specific industries – Mining**	*C2: Also the factories ... are one of the highest contributors to the pollution problem in my opinion.* *F1: ... because of the industrial city (or industrialised) South Africa …* *C1: Mine dumps always pollute …* *F2: Big mining companies ... excrete their waste ...* *H3: ... there are a lot of mine dumps that litter our land …* *C1: due to mine dumps …*
	• **Construction and development**	*E1: The other thing that is worrying is that there are a lot of building developments going on lately …* *H2: ... because these constructions are at the side of the road they tend to obstruct traffic and vision as sand is sometimes heaped on the side.*
	• **Electricity generation**	*C2: ... more electricity is being used; therefore more needs to be generated, causing more pollution.* *G2: In terms of power waste …* *G2: .electric power supply which causes excessive use and thus causes pollution of all kinds*
	• **Agriculture**	*E2: ... incorrect farming methods where farmers leave fields bare …*

Concept	Sub-concept	Participants' statements
		E2: However the soil erosion is caused by incorrect farming methods …
Specific causes of air pollution	**Industrial emissions**	*G2: Factories continue to manufacture products, as a result polluting the air.* *C4: ... our factories are blowing out more and more smoke into the air.* *C1: … and smoke due to factories.* *C1: … and factories pollute with smoke.* *D2: ... the manufacture companies send a lot of waste gas into the air …* *A1: … harmful chemicals in the … air that come from factory smoke …* *C3: The use of "dirty" production methods causing hazardous smoke and smog.* *C3: ... caused by factories refusing to find or utilise healthier production methods …* *C4: Then air pollution from … big firms.* *A3: ... the smoke and gasses … pollute the air.*
	• **Co-location of industries**	*E2: With the air pollution coming mainly from congestion of industries all in one area …* *F1: Air pollution is caused by many companies around. (Industrial sites)*
	Transportation emissions	*C2: The pollution is also from the cars that everyone so "needs"!* *C4: ... from our gas cars …* *F2: ... as well as exhausts from cars.* *E2: … car fumes*
	• **Growth in vehicle activity**	*A3: ... from our over-populated roads.* *C4: And also more and more people can afford cars, therefore more cars on the road means more smoke from their fuel geared tanks.*

Concept	Sub-concept	Participants' statements
	• **Ageing of the national vehicle fleet**	*F1: I think increasing traffic is one environmental problem in South Africa. ... The roads are congested. ... most people own a vehicle of some sort.* *G2: ... people use a huge number of motor vehicles to travel ...* *F1: ... people who drive old cars ... car will be so old that even the smoke from the car is noticeably bad.*
	Residential emissions • **coal and wood burning** • **CFCs**	*E2: … and basic burning of fossil fuels by people. In our neighbourhood a lot of people have coal stoves and during winter when it's about 6 pm you can't see due to the heavy smoke.* *F2: ... due to fire smoke and combustion …* *A3: ... lots of excess stock needs to be destroyed – to get rid of it, it needs to be burned … the smoke pollutes the air.* *A1: ... and is caused by harmful CFCs …*
Specific causes of water pollution	**Industrial waste and oil spills**	*A4: ... e.g. oil tanks which spill oil* *A1: harmful chemicals in the water … that come from factory … water …* *C3: Distribution of chemicals, waste, foam etc into water sources.* *F2: ... excrete their waste disposals in dams and lakes ... that pollutes the water ...*
	Lack of municipal water service delivery	*F2: Poor people use water from dams and lakes as their drinking, washing and bathing water …* *D2: Toilet waste pipes, it decreased level of healthy water.*

Concept	Sub-concept	Participants' statements
		D2: Pipes full of toilet waste burst and it ends up in dams and rivers. *D2: ... just throw their paper and foil wrappers on the floor, then the wind sweeps them up and they end up in the water.*
Specific sources of noise pollution	**Commercial construction site**	*H2: I'm considering noise pollution because … there have been numerous constructions ...* *This adds on to ... noise pollution* *H2: Noise pollution from construction sites …*
	Private sector	*F1: … people make noise in their cars and as if that is not enough, you find those who walk around playing music on their phones and everyone else can hear them*
Factors contributing to waste-related problems	**Lack of recycling initiatives**	*A1: ... no recycling of waste …* *C2: Plastic is a good way to keep the freshness in but it is not the easiest material to recycle.* *C2: The recycling problem …* *E1: ... there is a lot that is wasted in the environment. There isn't enough recycling and re-using going on around here.* *F2: People pollute the environment by dirtying it instead of recycling and re-using.*
	Insufficient waste removal & recycling facilities	*G2: In terms of recycling facilities people – especially in our black communities – don't necessarily use it or have close access to it …* *G2: ... in terms of using available bins and recycling facilities.* *C1: ... there aren't the right facilities to remove litter from the townships so it just seems to heap up. There are also not the proper facilities to remove litter from sides of the road.* *G1: For a fact, there are not enough "bins" around us ... since there are no facilities around …* *D2: Dumping sites aren't maintained.*
	Insufficient laws	*H3: Lack of strict regulatory laws pertaining to pollution and dumping of refuse etc.*

Concept	Sub-concept	Participants' statements
	and regulations	*H3: ... the problem comes with the actual implementation and enforcement thereof.* *C4: ... the government introduced a law whereby consumers have to pay for plastic bags, but how efficient was that? You still walk around the streets of Johannesburg and it's litter and plastics everywhere.*
	Sanitation	*A2: Squatter camps … the lifestyle promotes no proper sanitation or cleanliness.* *F2: ... poor people do not have sanitation therefore they use the environment for that.* *G2: Also in terms of sanitation.*
	Excessive packaging	*A3: Product packaging*
Causes of loss of biodiversity	**Specific causes of deforestation** ▪ **Poverty**	*A5: Deforestation happens, because there's a need for wood, paper and clothing.* *F2: Poor people cut and destroy trees to make fire to keep warm in winter …* *A5: People also chop off trees to make fire.*
	Killing of animals	*C3: The unnecessary killing of animals for beauty advantages.*

TABLE 3: THEME – YOUNG FEMALE CONSUMERS' KNOWLEDGE AND AWARENESS OF THE CONSEQUENCES OF ENVIRONMENTAL PROBLEMS

Concept	Sub-concept	Participants' statements
Threat to humanity	**Diseases & poor health**	*C4: People pick up funny diseases and sicknesses as a result of living close to these factories or these dumping sites.* *D2: People's lives expectancy is decreased ... it gets into our body systems, which causes sickness.* *D3: Bad health* *F2: ... thereby creating a very unhealthy place to live for humans …* *G1: ... also playing a role in people's health … Not having a clean environment results in people contracting diseases.* *G2: This will increase the number of people being ill. Increase in diseases like cholera, cancer, etc.* *H3: ... it poses a danger to people living around those areas*
	• **Health issues pertaining to the inhalation of polluted air**	*A3: The fact that the air is being polluted has an effect on people's health. Especially people in rural areas suffer from health problems.* *C3: Harmful gene mutations can occur, especially when dealing with infants causing life-long problems from inhalation of pollution* *D2: ... a lot of people struggle with asthma ... that build up in our lungs and then in the future our health decreases more and more. We get sicker a lot easier than before.* *E2: Air pollution causes or leads to respiratory problems in human beings; asthma is*

Concept	Sub-concept	Participants' statements
	• **Health issues pertaining to the consumption of polluted water**	*aggravated.* *F1: These substances that pollute the air ... you are likely to get sick.* *G1: Diseases such as asthma are contracted from air pollution.* *H3: Diseases obviously come along with inhalation of and exposure to chemicals, gases, etc.* *A3: ... the smoke and gasses ... are hazardous to our community.* *F2: The other consequence is humans drinking and using unclean water, thereby contracting diseases such as cholera and others which are fatal* *C2: ... if animals/humans drink it, it could be harmful to them.* *C3: ... water pollution ... can harm the human body even without ingestion ... especially in the effects on the animal and human body.* *D2: ... people will drink this water and get very sick.*
	Compromising the livelihood of future generations	*C2: The biggest consequence of them all is that ... our descendants will not be able to ... enjoy the world as we know it today. ... our descendants will not be able to ... grow their own crops ...* *D1: Future generations will have to live in a world that is not very natural.* *F2: ... a problem of us humans not having food to eat ... This will then destroy the cycle of life.*
	Depletion of natural resources	*D1: Resources such as oil, wood, water, trees ... people won't be able to afford it and this could lead to a lot of deaths (humans and animals)* *E1: I ... there won't be enough trees or clean enough water because all our resources will be spent.*

Concept	Sub-concept	Participants' statements
Threat to economic growth and development	**Negative impact on tourism industry**	*G1: This might lead to our country losing tourists, who wouldn't want to tour in a dirty place.* *H3: ... our ocean is certified dirty… the tourism industry loses a lot of customers … This I think is also a huge problem as the SA tourism industry suffers from such things.*
	Agricultural problems	*E2: The livelihood of farmers is also affected. They cannot expect to produce crops on land that can't be farmed.* *C2: Pollution also causes "acid rain" … is not good for crops …* *C2: The cities are expanding ... agricultural lands are being "taken out" …* *C2: The cities expanding a lot means that the agricultural and forestlands are being taken away.* *C3: Life cycles are disrupted causing a prey e.g. locusts to become abundant destroying things like crops.* *D2: ... vegetables are planted in soil with poison materials …* *E2: ... drought and incorrect farming methods have caused major damage to the little land that can be cultivated in our country.* *F2: ... the impact it has on plantations and food grown from the soil.* *H2: ... destroys minerals in the soil.* *E2: … and drought.* *C2: The cities expanding a lot means that the agricultural and forestlands are being taken away.*
Threat to nature and other living	**Destruction of natural habitats**	*H2: ... destroys the natural habitat of animals ...* *H4: It destroys nature, natural habitats ...* *C2: In the future ... animals will only be able to live in cages at zoos and plants will have to be*

Concept	Sub-concept	Participants' statements
species		*grown somewhere still.*
	Deforestation	*A3: Too many trees are cut down ... and too little trees are planted* *C2: ... forestlands are being taken away.* *D1: Cutting down too many trees* *F2: Humans cut down trees* *F2: ... the destruction of plants.* *F2: People on top of that still cut down trees …*
	Extinction of animal and plant species	*F2: The other problem would be indigenous species in terms of plants and animals being extinct.* *F2: This also kills the plants and animals involved.* *C2: ... but someday our descendants will not be able to see animals in the wild …* *C3: ... water pollution kills marine life …* *C3: The unnecessary killing of animals for fur or tusks/horns or even in a struggle for space ...* *F2: Another problem would be the extinction of animals as well as people killing them.*
Global warming		*A3: The pollution causes global warming to happen quicker ...* *A5: ... global warming.* *C2: As it has already been noticed pollution causes global warming and this in turn is melting the ice caps.* *F2: This causes global warming which in the long run will be detrimental to all living species.* *F2: Global warming is caused by environmental problems …* *G2: The consequences of air pollution is global warming.* *H4: ... and destroys the ozone layer, thus leading to global warming.*

TABLE 4: THEME – YOUNG FEMALE CONSUMERS' CRITERIA FOR GARMENT SELECTION BEFORE INFORMATION SOURCE EXPOSURE

Concept	Sub-concept	Participants' statements
Shirt 1	**Care**	*A2: The shirt is easy to care for.* *A4: Cotton is more … washable …* *C2: … because it is the easiest to wash …* *C3: … as it is the easiest to care for.* *D1: … may be dry-cleaned.* *D2: … easier to put clothes in washing machine.* *D3: … looks like easy to care for.* *E1: The shirt also has more wash options.* *G1: … will be of convenience to her as she can dry-clean it.* *H3: … in her opinion be easier to wash and iron.* *H4: … There is also not so much consideration to be done when washing it because it's dry-cleanable, ironable, and wash with lukewarm which is what she uses for most of her clothes.*
	Comfort	*A2: Shirt 3 is polyester, which is uncomfortable.* *A4: Cotton is more comfortable …* *D1: … more comfortable …* *D2: Because cotton shirts feel very comfortable.* *E1: Comfort*
	Price	*A2: It is reasonably priced in relation to the other shirts.* *A4: … and therefore cheaper …* *C2: … I think that price would also be a decision factor …*

		C3: She would also look at the price … *D1: The price is less …* *D3: Not too expensive …* *E1: Price …* *G1: … wouldn't choose shirt 2 because it is a bit expensive …* *H3: … and then maybe the price tag …* *H4: For the value you save about …*
	Durability	*A4: Cotton is more … durable.* *C3: The fact that it is imported fabric means quality (most of the time).* *E1: … in terms of durability … this shirt will last longer …* *G1: … might not be of good quality.* *H3: … and think they are poor quality and won't last that long.*
	Country of origin	*A2: It is presumably locally made – which increases SA track* *A4: Even if it is imported material, it is locally produced …* *D2: Also, shirt 1 is made in South Africa using imported material, so I believe in supporting South African products.* *G1: … shirt 3 being made in China will make her doubt buying it …* *H3: … suspicious of Chinese products …*
	Style	*D1: The style of the shirt …* *H3: … is its shape obviously …* *H4: … The style of the T-shirt … a round neck is wearable …*
	Fit	*D1: … how it suits her body will most definitely influence her decision.* *D3: … how will it suit her body.*
	Appearance	*E1: Does it look good? … And it is also the best looking.*

		G1: … it has a feminine look … *H4: … doesn't look appealing …*
	Fashionable	*D3: … but fashionable …*
	Design	*G1: Firstly because of the design.*
	Familiarity	*H3: … it's fabric she is most familiar with.*
	Environment	*D1: I do not think that she would consider which shirt is more environmentally friendly.* *D2: … material (100% organic cotton) sounds very inviting, especially the organic part.* *D2: But the shirt itself doesn't look that inviting.* *G1: … although it's made of "organic cotton" that would not even matter to her because she doesn't know what is so special about "organic" products …* *H4: … doesn't look appealing when worn although it's 100% organic cotton.*
	Fabric	*C2: … because it is … cotton.* *C3: The fabric of the shirt also plays a part ...* *D1: The comfort of the material …* *H3: … cotton one, because of its fabric …*
Shirt 2	**Care**	*A1: You can wash it in the washing machine with warm water. It can be ironed.* *E2: It really doesn't matter if the t-shirt is dry-cleanable because I don't think she would even consider that, it's not practical.*
	Comfort	*A1: It's a comfortable T-shirt …* *E2: … looks comfortable …*
	Price	*A3: … will rather pay more for a product, which is more positive in terms of the environment.* *E2: Plus it is not too expensive when compared to the normal '100% cotton t-shirt'.*
	Durability	*A1: … it will last longer.*
	Fit	*E2: The t-shirt must also hug her and t-shirt 2 looks … the perfect fit for any body shape.*

	Environment	*A3: … because she is environmentally aware … which is more positive in terms of the environment.* *A1: … it's made from 100% (all natural) cotton.* *E2: … because it's 100% organic cotton, which feels great and helps with the environment.*
Shirt 3:	**Care**	*C1: It is easier to clean and doesn't need ironing.* *E3: … is hassle free. All you got to do is hand wash …* *F3: Do not iron. Do not dry-clean.* *G2: The fact that you don't have to iron the t-shirt is just a bonus … It is easy to be hand-washed.* *G3: … they'll use the same washing powder …* *H1: … does not need to be ironed, because she does not have time to iron her clothes and this would be convenient.*
	Price	*A5: Simply because it's cheaper.* *C1: Also it is cheaper than the others and being a student with a limited income this would be a better choice.* *C4: It is cheaper.* *E3: … cheaper …* *F1: The price in comparison to the other shirts is the lowest and price is very important when buying an item.* *F2: It's cheaper …* *F3: The price would influence her.* *G2: The t-shirt is also cheaper than the other 2, thus she would obviously be sensitive to price.* *G3: … very economical and being sensitive to expensive clothes …* *H1: Price will influence her decision …* *H2: … it would be unnecessary to opt for an expensive shirt. If it were branded or for a specific occasion then maybe the price wouldn't be a problem …*

	Country of origin	*C4: My friends and I are not really fussy about the origins of clothes …* *F1: … is that it was made in China. We have many items that we use and they were made in China, so you more or less know what to expect.* *G2: … most products in South Africa are made in China, so it's something that is common.* *H1: She would be sceptical about where it's made, but I don't think it would be her first problem, because she is aware that most clothes come from China and are made in China.* *H2: … is that people tend to discriminate against material 'made in China' which to me does not really make a difference, as sometimes the material might not be from China but the sewing and the printing might be.*
	Fabric	*A5: We don't normally look at the fabric …* *C4: My friends and I are not really fussy about … the technicalities with the fabric used.* *F2: But her decision will not be influenced by the fabric content …*
	Style/ Design	*C1: She would like the style of this shirt more than the others.* *F1 Furthermore, the fact that it is v-shaped …* *F2: The cut of the shirt will also influence her decision.* *G3: … has a nice design, stylish …* *G3: … more stylish than the others*
	Appearance	*C4: It is the most good looking … will definitely go for the LOOK/ appearance of the shirt …* *E3: … it looks good.* *F1: … more appealing …* *F2: People are concerned with the way clothing looks …*
	Familiarity	*E3: … but it is convenient …* *F1: … so you more or less know what to expect.* *G2: … so something that is common. She will be more confident in buying what she already knows …*

TABLE 5: THEME – INPUTS GENERALLY USED BY YOUNG FEMALE CONSUMERS IN CLOTHING DECISION-MAKING

Concept	Sub-concept	Participants' statements
Aesthetics	**Appearance**	*E2: ... what part of your outfit it's going to form …* *E1: How does it look?* *E3: First thing I look at is what it looks like.* *D3: If I think it looks good …*
	Style and shape	*D1: I like the style …* *F2: Style …* *E2: ... one had maybe a figure or it hugged your waist ...* *E1: ... I look at the shape of it ...*
	Fashion	*H3: If it was fashionable.*
	Colour	*F3: Cause, like, it's, the colours are green, faun, white. They're not into red or orange and ... [environmentally-friendly clothing]* *F1: Ja, you know our colours. Like, it's, like, old people's clothing colours* *E3: ... how white …*
Functionality	**Fit**	*E3: ... it sits well …* *D3: … if I see I'm going to look good in a particular item …* *H3: ... it is going to fit on you ...* *D3: … if I tried it on and I see it will look good, I'll take it.* *H4: I just like the way I think it is going to fit properly on me.* *H3: ... ja, I think the way it's going to look on me like I had to fit it, I had to ...*
	Durability	*A3: ... because it is for everyday use.*

Concept	Sub-concept	Participants' statements
	Comfort	*H3: ... and comfort. Like, I want to be comfortable in my clothes.* *H3: ... comfort.*
Physical properties	**Fabric**	*G2: The material is stronger.* *D1: I like the material. It's thicker than the Woolworths one …* *E3: I don't like this material …*
	Tactile perception	*H4: I like it because of the texture …* *H1: This one, it feels good …* *E1: How does it feel? ... I just touch the thing* *H3: ... it feels so good, hey?* *H3: ... and texture ...*
	Quality	*E3: ... quality wise, really it is not.* *H2: ... as much as this is quality …* *F2: ... but it is quality.*
Image	**In general**	*E3: ... not for the perception that is around …*
	Brand	*H3: ... brand ...* *H2: I won't lie; I'm a brand-orientated person.* *E3: It's like brands to me personally, I won't go out specifically ... but if I came across it ... I'll buy it for my personal satisfaction …*
	Label	*E1: I don't normally look at the labels ...*
Price		*E3: ... price is value ... the price is relatively, you know, works with me ...* *E2: ... considering just price …* *F2: It might be expensive ...* *E2: ... considering just price ... you just get the easiest, the easiest option that is going to be the easiest*

Concept	Sub-concept	Participants' statements
		on your pocket. *H4: I am very price sensitive.* *C1: Price. I'm afraid price plays a big part. We're students.* *E3: ... then I look at the price …*
	Value Perception	*A5: ... a nice evening dress, you're going to spend more … you are not going to buy the cheap thing from China.* *E3: ... then I'm, is it worth it, is it not? It could be a reasonable price, but for me is it worth that specific top …?*
Emotional		*H3: At the end of the day you love that jacket …* *D3: ... I'm still the one who will need to walk around feeling confident in it.* *H1: It just feels good so I guess when I'm wearing it, it will feel good.* *E3: ... I kind of picture it, how I would put, how would I wear it ... everybody has their own little dress sense and the way they mix things together. So I look at that ... I could make it work in such a way ...* *E3: I'll buy it for my personal satisfaction …* *F3: You want that purple jersey, you just want it ... and you're thinking I want the Mr Price one, I want it.*
Environment		*E3: ... eco-friendly, not eco-friendly if I like it ... if it just happens that the eco-friendly stuff is, you now (tickle) my taste buds better, then I'll buy it.* *D3: ... if I'm wearing a top, the one is eco-friendly and the other is not and they look exactly the same like ( ) don't really care ( ).*
External influences	**Weather**	*A2: I usually buy stuff when I'm ... the morning is cold and I have a jersey on …*

TABLE 6: THEME – YOUNG FEMALE CONSUMERS' INPUTS IN THEIR CHOICE OF APPAREL AFTER INFORMATION SOURCE EXPOSURE

Concept	Sub-concept	Participants' statements	
		Focus groups	Control groups
Mr Price	**Price**	*F3: I can afford the Mr Price one. Budget …* *G3: Mr Price … it's cheap*	*A3: I'll probably buy the Mr Price one … is cheaper…* *E2: Mr Price … considering just price …* *E1: Mr Price … 'cause you're broke*
	Fit	*H4: … it is going to sit properly on me.*	
	Fabric hand	*H4: The Mr Price one … the texture …* *C1: I would have liked the material … but it's made in Lesotho.*	
WW			*E3: Woolworths*
	Familiarity/conditioning		*A5: Woolworths … I don't know, I just like Woolies more*
	Environment	*D2: … it is eco-friendly as well*	
	Durability/quality	*D2: … I'll choose the Woolworths one, it's slightly better …* *D3: The one from Woolworths. Well, it seems like a better quality …* *F1: … it must be quality.* *F2: Woolworths … This is quality.* *H2: The Woolworths one … this is quality …*	
	Stretch	*H2: … will be nicer because from the stretching, from the*	

Concept	Sub-concept	Participants' statements	
		Focus groups	**Control groups**
		elasticity of it … *H1: This one, … and it stretched.*	
	Fabric	*H1: This one, it feels good and it stretched. It just feels good …*	
Edgars			*A2: Edgars* *A1 : Edgars* *A4: Edgars*
	Price	*G1: Edgars … the price difference is not that much …*	
	Fit	*C4: Edgars- … if it looks like it could fit well, …*	
	Style	*D1: … I like the style of the Kelso one.*	
	Fabric	*C2: Edgars. It's cotton.* *D1: … the Kelso one. I like the material.* *G2: I'll also go for this one. (Edgars) The material is stronger.* *H3: I'll choose this one …(Edgars) … it feels good and it's like not as heavy …* *C4: Edgars … the material doesn't look like …*	
	Care	*C3: Edgars … look if it can be washed in cold water …*	
	Durability	*C4: Edgars … and will look like that for longer …*	

TABLE 7: THEME – BARRIERS TO PURCHASING ENVIRONMENTALLY FRIENDLY CLOTHING

Concept	Sub-concept	Participants' statements
Performance	**Aesthetics**	*D3: If it was like a nasty pair of jeans ...* *H1: … now comes with patterns that I don't get* *D2: ... But the shirt itself doesn't look that inviting.* *H4: ... t-shirt that doesn't look appealing ...* *H2: Because of the colours and patterns and stuff … like hippies. Those funny skirts ...* *F3: They're not into red or orange and ... [environmentally-friendly clothing]*
Physical	**Design**	*G1: ... because of the design.*
	Quality	*G1: ... better quality ...*
Price	**Too expensive**	*D3: ... maybe one day when I'm rich I can go eco-friendly …* *E1: … that it's affordable to us, for us.* *D3: People are going to go for the cheapest.* *G1: ... what's keeping me away again is the price …* *D1: … being so expensive; they're like a lot more expensive than the others, that's why I never really look at it.* *H2: … as long as the price is still more than the normal price ... it is because of the price. If it was a normal price ... I will buy it at a normal standard price.* *D3: ... and it costs you an arm and a leg, and there is a nice pair of jeans that costs a quarter of the price …* *C1: … very expensive clothes* *H4: … buying some stuff for a costly price …* *G1: ... it is a bit expensive …* *C4: … where you can get it for cheaper …*

Concept	Sub-concept	Participants' statements
Marketing		*H2: ... it is marketed for the elite ... It is not really well marketed…hence we cannot buy it ...* *D3: ... that it's not marketed ...* *D3: ... people already decided that they are not going to actively … market it …*
Recall of information		*D3: I mean you're going to hear about it and think it's a good idea and if you hear ... and the same thing happens the next month and the month after that and nothing ever changes.*
Exposure		*H2: ... organic food, which is more, exposed …* *D1: ... if the people like, inform us more, and more people will do it, ja.*
Availability		*E1: … it's more available. If they, it was more accessible …* *H3: If there was eco-friendly clothing.* *C4: I've only ever heard, I think it's Woolworths have like the green label, I've only heard of them, I've never heard of any other.* *H2: If it was ... you could find it from a normal shop ...* *C4: People go, yeah Edgars or yeah Foschini's ...* *F3: ... then by the organic side in Woolies they don't have it …*
Lack of awareness		*F1: I've only seen the food part. I'm not going to lie, I haven't seen the clothing.* *C4: Nobody goes and buy things for environmentally friendly.*
Lack of knowledge		*G1: I think if we were to know what it is all about... I don't know much about it, so I won't really support something I don't know.* *D1: I don't really know what the effect is on the environment* *D3: ... people don't know (all the things they could do) ...* *G1: ... because she doesn't know what is so special about "organic" products ...* *F1: … I don't really know all these things ... I don't have enough information, you know? I only know so much ...*

Concept	Sub-concept	Participants' statements
		C4: You know like she said, she never knew. *G1: ... I don't have enough knowledge about this eco-friendly stuff*
Lack of understanding		*G1: I still don't understand what is the whole idea about it and what's going …*
Environmental/ clothing link		*C4: ... then you thinking my clothes, my food, you don't think of it that way. You just like, you just buy your clothes and don't even think where it gets made …*
Conditioning/ Habit		*D3: ... going shopping is like a condition, you go into the shop and you pick up, like when you buying groceries, you already know where the stuff is, like you pick it up, and pick it up and you go pay ...* *H4: ... the other stuff that we're using already, ja.* *G2: She will be more confident in buying what she already knows …* *D3: ... so many things you can do without going out of your way …*
Need		*C4: ... but I put me first and then after putting me first I think of other people. If I need a top I'm going to think about that first and then I'm going to think "ah, what good is this going to do?"* *H1: ... but then at the same time I need to wear clothes.*
Perceived consumer effectiveness		*A2: The thing is, we don't influence the environment as much as we think we do, like the whole global warming thing would have happened without us …* *D1: ... You don't feel like you're making a difference if you are the only one and no one else is doing it ...* *C1: ... like you do want to make a difference but you are one person ... You feel so, it's just me against all the rest of the people* *A2: We don't have that much influence as we think we have, it's been over-exaggerated or whatever* *D3: ... if I buy one eco-friendly or the 2.5% it's not really going to contribute that much …* *A2: Ja, but I think there are so many more things we should worry about in terms of the environment*

Concept	Sub-concept	Participants' statements
		than buying the shirt that is organic cotton.

TABLE 8: THEME- POPULAR MEDIA AS INFORMATION SOURCE

Concept	Sub-concept	Participants' statements
TV	**General**	*G1: ... I know about organic food from watching a talk show…*
	Advertisements	*C3: I mean even like a short advert ... that put into 30 seconds ... that would catch everyone's eye cause I don't know, people [won't watch] a documentary ... so an advert would actually catch their eye …* *G1: ... if you watch ... Or advertisement …*
	Distractions	*D2: … at home when there is an ad, you quickly run to do something and then come back to the programme and you don't really see the ad …*
	Amount of information	*I3: If they also explained like, exactly what do they mean … Because organic and eco-friendly is starting to mean so many different things … it's I don't know … All these different things like what is the eco part of these clothes, because there's so many different steps …*
	Believability Credibility	*I2: It depends on how they present it. If they present it in red with Madonna, then I don't think I'll believe it …* *I2: If they present it with a lot of environmental stuff, pictures of women wearing leaves or something random that would … that would make it more believable and associate different things to it ...*
	Exposure	*D3: … because there are people who don't have and people who don't watch ... TV …* *H2: ... how will they get the information about organic things? I mean … it's not much on TV … so you don't really get exposed to it …* *I3: Ja, I think that if I heard it on TV and hear more about that, like the proudly South Africa thing …*
Magazines	**General**	*E2: ... magazines.*
	Interest	*H3: … I read things that interest me, so I don't know …* *H4: I think I'll actually read it, like I said I think it is relevant, with all these things that are coming up*

Concept	Sub-concept	Participants' statements
		that's dangerous ... *C1: … I like reading and I just happen to read the* Cosmo*, or the* Glamour *or the* Elle*. It's good articles …* *H2: … I wouldn't necessarily read that unless the title is very, very catchy.* *I2: I think it would interest me, 'cause it is kind of an interesting concept.* *I3: I read these things in bold and then I generally think, does that sound interesting and then I might read around it …* *I4: I also read the captions by the pictures.* *I2: If they are going to go on a rampage about a winter collection or something random like that, that doesn't interest me.*
	Amount of information	*D3: ... it mustn't be like a long article in the … like a long publication that you put somewhere that no-one ever reads it.*
	Believability	*I3: … and I don't know, you don't expect to cover something eco-friendly in the* ELLE *magazine.* *I4: We wouldn't really believe it, it would just seem like a marketing gimmick or something.* *I3: If it was I … like the ones that are more for outdoor clothing or for hiking or for sporting … then you would think about it, because those people generally care about their own health more than their looks and stuff.* *I3: Ja, in those it would seem like this is cool, because I mean those magazines are like aimed at more an outward appearance and then if you care about your outfit you don't really, unless it's like a cool fad thing to do to be eco-friendly …* *I3: … I don't think I trust it from a fashion magazine as such because it's just … it doesn't sound like the market it's aimed at. Like, it's not aimed at eco-friendly people; it's aimed at people who like clothing and shoes …*

Concept	Sub-concept	Participants' statements
		I3: … like the Shape *magazine generally have more researched articles, like the ones that are actually, like, slightly more trustworthy, I think, than like, I mean the* ELLE *magazine is trying to sell you something it's more like the fashion outlook again …*
	Exposure	*C4: Another thing is I don't go to buy fashion magazines. I just buy mags and look at the stuff and go "I don't really like this or I do like it".* *I2: Because buying magazines seems kind of like a luxury and I'm a student.* *I2: Ja, we have random magazines that get left in our flat, so we page through those.* *I3: And when I'm in a doctor's office … I always look through the fashion magazines. I like looking at the fashions …*
	Visibility	*I4: Or if it was like green across the bottom to highlight the stuff.* *I3: I wouldn't have noticed it on that cover.*
	Fashion info source	*G1: Sometimes I do look at magazines … keep you updated of what's in and of what's too much and … where you should be.* *A5: I usually buy the magazines at the beginning of the season where you get the free booklet ... what is fashionable this summer or what is in this winter or whatever, and then I just browse through and see ...* *I1: Something simple. "Dressing for winter for dummies."* *I2: I like the "dressing for your body shape".* *I2: Those are cool. I don't know what my body shape is, but I like reading all the different ones to see what kind of advice they give …* *I3: Or what's like in this season …* *I3: I like getting ideas sometimes … you look through and like that style, but then you generally tend to buy a 101 things from that one style or something. Well you get cool ideas just like how to try different outfits together …*

Concept	Sub-concept	Participants' statements
		I3: … many things to do with one jacket or 2 items you should have to, like you should have in your closet … different combinations you can do with the clothes you have in your cupboard. *I4: I don't really ever bother looking at fashion magazines that much, I'd rather go to the shops and see what I like that's there.* *G1: Reading about it …*
Other forms of popular media	**Radio**	*D2: ... if you really want to inform someone the radio is a good way.* *D3: And radio reaches ... a lot more people …*
	Outdoor advertising	*D3: [What I think about the billboards is that you read ... it must be something that like it looks practical ... but if it is just a big advert, you think " yeah whatever."* *D3: ... you read and think that would be a good idea and you drive past and at the next robot you don't remember ...* *H2: ... if you put up a poster or something effective …* *H2: ... maybe if you put up, if organic posters were to be put up ... We read that stuff, believe us we do, as long as there's a bit of a poster and it's interesting and colourful and stuff, we will read it.*
	Pamphlets	*D2: ... I think a good thing is pamphlets …*
General		*D3: ... I never knew I could recycle this bottle. It must be quick …*
	Believability	*H2: ... I think this whole organic thing and stuff is a moneymaking strategy …* *H2: It's just big companies ... making money from those elite people that can afford to think, maybe I should use organic products …* *H2: ... I don't think it [environmentally- friendly products] is a big difference, a big deal for me.*
	Exposure	*H2: ... how will they get the information about organic things? I mean … it's not much on TV, nor is it on radio either, you know, so you don't really get exposed to it.*

Concept	Sub-concept	Participants' statements
	Facilitating opportunities Implementation	*D3: ... like if something that's implemented at the office at work, then you think about it. You see someone else doing it and you think of doing it then …* *D1: It must be something practical like take your papers to the … ( ) bin every Saturday or something that people …*

TABLE 9: THEME- IN-STORE INFORMATION

Concept	Sub-concept	Participants' statements
Product Labelling	**Effectiveness**	*C3: It should just be like plain and simple …* *C3: ... I didn't know that Woolworths … presented the green label ... if they had a proper label on …* *C3: ... I never even look at the label ... So, like it should be like a sticker ... on the front.* *C3: ... if they had a proper label on …* *F1: The thing is you are not going to be reading every tag to see if it is ...* *H3: I only read them when I wash.* *D3: With me, I never look at the care label …* *D2: ... I always look at the care labels. It's one thing I always look at.* *I3: … I do check the labels just to see if I can tumble-dry it, but other than that …*
	General	*I3: And, oh, and colour and sizes. I like seeing the sizes nicely.*
	Visibility	*H2: Except I know there are these specific clothing where you need to look at it, you can't avoid it ... That's the only one you can't miss …*
	Amount of information	*I4: I think, maybe something like the organic cotton will be nice to have an explanation of what it actually is …*
	Believability	*I2: Maybe if they had standardised symbols or something for clothes as well …*
In-store signage	**General**	*I4: And like maybe explain the benefits of it …*
	Effectiveness	*I2: All the mannequins and … things and the posters that were there, there weren't very many, but the ones that were there, were quite striking.* *I1: Well, it didn't have a sign or anything … it didn't stand out.* *I2: … if you didn't know about it, you wouldn't look out for it, so you definitely wouldn't notice …*

Concept	Sub-concept	Participants' statements
		I1: You don't really get people looking … *I3: I don't generally read the signs … but, the signs, I don't really read stuff in shops, there's just too much information generally … after a while you just stop looking.*
	Visibility	*I2: … but just a sign I'm not going to notice. I'm not there to look at signs; I'm there to look at the clothes.* *D3: ... when people walk into the shop, they're not looking at the overhead projector or whatever, they're just trying to take the clothes, you know?* *I2: … I like some of the signs, but there were too many.* *I3: … but also too many signs …* *I4: … irregular signs, like it wasn't always like difficult to find stuff sometimes.* *I4: Maybe, even to have a sign like outside the shop …*
	Pamphlets in store	*D2: When the eco-friendly clothes came out, Woolworths actually had this pamphlet at the cashiers and you could actually read about their clothes and stuff.* *D2: You would actually be at the cashier and see, oh, I actually have this t-shirt and it's not eco-friendly and you go back and get the one that is eco-friendly.*
	Believability	*I3: … they're just trying to make money by calling it organic.*
Store layout		*I3: … it was in the middle of the section where you expect the gym pants … the ones you can always find there, but it was just sort of there.* *I4: … it's all these little random sections inside … was very confusing to find your way where you're going.* *I1: What I liked was how they separated the styles, cause they had like little, you know, these little squares or circle types of styles of clothing.* *I2: But on the other hand, those section stuff, makes you get lost really easily.* *I3: The one we couldn't, like the jeans … was like in this little square and we missed it completely …* *I1: I liked how they colour-coded everything. Like you're looking for a specific colour. It was all there.*

Concept	Sub-concept	Participants' statements
		I2: … it is a separate section and so you can immediately just go to what you want … *I3: Ja, uhm, I love the colour coding. I really do, and also the styles are kind of all together.* *I4: I liked how the shop kind of guided you through almost, like you followed a path and you were in a smaller area where you could see all the clothes in that area and you could kind of walk through the store like almost on like a journey or it felt the way we walked through.*

TABLE 10: THEME- INTERPERSONAL INFORMATION SOURCES

Concept	Sub-concept	Participants' statements
Peer groups	**General**	*H3: ... they're like, is it nice, will it suit you, and we go there to buy it actually.* *F2: ... I'll ask my friend if, like I can wear it in public ...* *G2: It is just most of the time my friends and like I look what she is wearing and will it suit me? Does it look good? Will it look nice on me?* *H3: But if I love it, even if they say no, I'll buy it anyways, you know?* *H2: ... usually what happens is that we usually pass on the message …* *D3: ... I bought an eco-friendly shirt and I told the next person, I could increase by 2% and 2%, that's a big figure.*
	Knowledge	*H2: As long as I know what organic is though, cause I might be thinking this is organic and I'm like, oh.* *I4: … if you don't really know a thing about it, it's kind of sceptical to try something new sometimes.* *H2: ... and we know about it, cause ... where my friend … is telling me about organic food, I'll know about it …*
	Believability	*I2: So, I guess if the friend was well informed and … you could ask, you know, why or what … so if they knew that kind of detail, then they could probably persuade me to buy it.* *I4: I think it would, a trusted friend a lot more, if they said it's such a good quality and look how well it's lasted …*
	Fashion visibility	*H4: Not like ooh, I bought an organic thing and it's not looking so good on you …* *E3: ... this is the place where we set trends like due to, like the friendship groups that we're in ... that also kind of influences the things we buy …* *E3: ... within this ( ) society we're in, we set trends, you know, we set kind of looks that ok, no this is cool, this is not, don't ever dress like that, you know. The no-no's, the do's and don'ts, kind of thing.*

Concept	Sub-concept	Participants' statements
	Exposure	*H2: So, I think you can only really get exposed via friends ... but if you are not into it then you won't know about organic things …*
Parents	**General**	*I2: … our mother, because she's got allergies to so many different fabrics, so maybe if she heard about it … and buy a lot of it and she'd buy a lot of it for us too …*
	Forming habits	*G1: Well, they influenced me ... and then somehow you grow up just being in that line of your style in a way and you just used to it a lot.* *D2: ... I always used to because my mother always used to do that, so that's why I always do that …*
Celebrities	**General**	*G3: And sometimes celebrities* *G3: Singers* *G1: I would look at international actresses and also local actresses, 'cause singers go a bit too far.*
	Advertisements	*H3: Paris Hilton was wearing these skinny jeans …* *H4: ... those people, who are famous, they should just say he was wearing whatever, whatever and that was so nice.*
	Believability	*I2: It depends on how they present it. If they present it in red with Madonna, then I don't think I'll believe it.*
Educational		*C4: ... If you put that, obviously, in the school curriculum then … the kids know. If I know from my childhood that this … it's automatically what I will do and when I'm older this is what I'm going to teach my kids.*

ADDENDUM F: Consent form

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Department of Consumer Science

Consent Form

The purpose of the research is to gain an understanding of how information sources influence the apparel buying decision. The research will be used by the researcher to prepare for a dissertation, which will be submitted as part of the requirements of the Masters in Consumer Science. All information will be treated as confidential and participants will not be identified.

By signing below you are acknowledging you have been made aware of the nature of this research and are aware that the data will only be viewed by the researcher, their study leaders, examiners and other authorised persons whose only interest will be to review and support the research undertaken.

Participant

Signed: _____

Print your full name: _____