THE DEVELOPMENT OF AN ONLINE GUIDE FOR THE ASSESSMENT OF APPAREL TEXTILE QUALITY

Ardina Retief (neé De Klerk)

Thesis

PhD Cons Sc (Clothing Management)

Supervisor: Prof HM de Klerk

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THE DEVELOPMENT OF AN ONLINE GUIDE FOR THE ASSESSMENT OF APPAREL TEXTILE QUALITY

by

Ardina Retief (neé De Klerk)

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Summary

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ARDINA RETIEF (neé DE KLERK)

Supervisor: Prof HM de Klerk

Department: Consumer Science

Degree: PhD in Consumer Science: Clothing Management

In this study the objective is firstly to determine which quality cues adult female consumers use when purchasing apparel for formal and casual daywear. The second objective is to use this information to develop an online guide for apparel consumers. As no South African apparel retail website currently supplies more than sizing and care related information, this study could fill the need for more textile information that could serve as a guide when consumers purchase garments on the Internet.

Although studies concerning the Internet as new shopping environment and the Internet consumer are on the increase, only a few studies have been specifically aimed at the problems that online apparel consumers encounter regarding the disadvantages of not being able to actually see, touch / handle or try on the garment before making the decision to buy (Beck, 2002; Fiore & Jin, 2003, Sasaki, Ikeda & Shimizu, 2004).

A need also exists for empirical research on the South African Internet apparel consumer as, with one exception (Jacobs, 2003), the studies referred to were planned and executed in America, Asia and, to a lesser extent, in a European context. Another important issue in the South African context is that very little textile information is supplied in any retail environment. Consumers often have only a very limited textile knowledge, which is usually based on experience. By developing and implementing a consumer guide, consumers could be educated to demand more accurate and informative textile labelling to help them when making purchase decisions.

This research is descriptive as an attempt is made to describe and understand behaviour, tendencies, and situations. It is exploratory as it aims to obtain insight into a relatively new area of study, namely the online consumer of textile products. The last phase of the study can be seen as applied evaluation research as the testing of the effectiveness of the quality assessment guide is the ultimate goal of the research.

A social-cognitive perspective was used in the study. Consumer decision-making theory and script theory are both used to explain consumer behaviour in the new Internet environment.

Career women took part in the study. A quantitative research style was used. For both the first and final phases of the study structured questionnaires were used and the snowball sampling technique was used as primary sampling method. The responses to the questionnaires were coded, captured and analysed.

From the results it is apparent that South African career women lack general textile knowledge and seldom have the ability to relate physical fibre and fabric properties to performance properties. They therefore often act on their emotions

during apparel assessment and purchasing. The results underline the importance of supplying textile information to facilitate decision-making. Results from the final phase of the study indicate that by supplying information the online consumer is able to make more confident decisions.

The study makes a valuable contribution to understanding consumer behaviour, especially in a South African context. The results contribute to the body of knowledge regarding the Internet apparel consumer.

SAMEVATTING

DIE ONTWIKKELING VAN 'N AANLYN GIDS VIR DIE BEOORDELING VAN KLEDINGTEKSTIELKWALITEIT

deur

ARDINA RETIEF (neé DE KLERK)

Promotor: Prof HM de Klerk

Departement: Verbruikerswetenskap

Graad: PhD in Verbruikerswetenskap: Clothing Management

Die doel van die studie was eerstens om te bepaal watter kwaliteitaanduiders deur volwasse vroulike verbruikers gebruik word tydens die aankoop van bo-klere vir formele en informele dagdrag. 'n Tweede doelwit was om die inligting, verkry uit die eerste fase van die studie, te gebruik vir die ontwikkeling van 'n aanlyn gids vir kledingverbruikers. Aangesien geen Suid-Afrikaanse kleding kleinhandelwebwerf meer as net die grootte van klere-items en versorgings-instruksies verskaf nie, kan hierdie studie die behoefte aan meer tekstielinligting bevredig en ook as gids dien vir kleinhandelaars wanneer hulle hul webwerwe ontwerp.

Alhoewel studies wat handel oor die Internet as nuwe koopomgewing en die Internetverbruiker aan die toeneem is, is slegs enkele studies gerig op die probleem wat aanlyn kledingverbruikers ondervind weens die feit dat die kledingstuk nie werklik gesien, aangeraak of aangepas kan word voor die aankoopbesluit geneem word nie (Beck, 2002; Fiore & Jin, 2003, Sasaki, Ikeda & Shimizu, 2004).

Daar bestaan ook 'n behoefte aan empiriese navorsing oor Suid-Afrikaanse Internet kledingverbruikers, aangesien die studies, op een uitsondering na (Jacobs, 2003), in die VSA, Asië en, tot 'n mindere mate, in Europa beplan en uitgevoer is. Nog 'n belangrike aspek in die Suid-Afrikaanse konteks is dat baie min tekstielinligting in enige kleinhandelomgewing aan die verbruiker verskaf word. Verbruikers het dikwels 'n gebrekkige tekstielkennis en die beperkte kennis wat sommige wel het, is dikwels op ondervinding baseer. Die ontwikkeling en implementering van 'n verbruikersgids kan 'n bydrae maak tot die opvoeding van verbruikers om meer eise te stel vir akkurate en omvattende tekstieletikettering om hulle te help met die besluitnemings-proses.

Hierdie navorsing is beskrywend, aangesien 'n poging aangewend word om gedrag, neigings en situasies te beskryf en te verstaan. Dit is verkennend omdat daar gepoog is om insig in 'n relatief nuwe studie-gebied, naamlik die aanlyn verbruiker van tekstielprodukte, te verkry. Die laaste fase van die studie kan as toegepaste en evalueringsnavorsing beskou word, aangesien die uittoets van die effektiwiteit van die gids die uiteindelike doel is.

'n Sosiaal-kognitiewe perspektief is in die studie gebruik. Verbruikersbesluit-nemingsteorie en geskrif(teks)-teorie is beide gebruik om verbruikersgedrag in die nuwe Internet-omgewing te verduidelik.

Beroepsvroue is by die studie betrek. 'n Kwantitatiewe navorsingstyl is gebruik. Vir beide die eerste en finale fases van die studie is gestruktureerde vraelyste en die sneeubal steekproefnemingstegniek is as primêre metode gebruik. Die response op die vraelyste is gekodeer, vasgelê en geanaliseer.

Die resultate toon dat Suid-Afrikaanse beroepsvroue 'n gebrek het aan algemene tekstielkennis en selde die vermoë besit om die verband tussen die fisiese vesel- en kleedstofeienskappe met die gedragseienskappe in verband te bring. Hulle steun op

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hul emosies tydens die beoordeling en aankoop van kledingprodukte. Die resultate onderstreep die belangrikheid van die verskaffing van tekstielinligting om besluitneming te fasiliteer. Die resultate van die finale fase dui daarop dat, indien voldoende inligting aan die aanlyn verbruiker verskaf word, hulle met meer selfvertroue besluite kan neem.

Die studie maak 'n waardevolle bydrae tot 'n beter begrip van verbruikersgedrag, veral in 'n Suid-Afrikaanse konteks. Die resultate dra by tot die teoretiese kennis oor die Internet kledingverbruiker.

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CHAPTER 1

THE STUDY IN PERSPECTIVE

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1.1   INTRODUCTION

In today's complex society with the rapid development of technology not only consumers, but also retailers and marketers are confronted with new challenges. Hawkins, Best and Coney (1998: 7) and Schiffman and Kanuk (2000: 12) contend that studying consumer behaviour is the key to understanding and predicting consumer behaviour. This in turn enables the marketer to plan and manage effectively in this continuously changing society so as to ensure satisfied customers.

Consumer behaviour can be seen as a sequence of problem-solving stages which include the development and perception of a want or need, pre-purchase planning, information search and decision-making, the act of purchasing, and post-purchase behaviour (Foxall & Goldsmith, 1994:25). As consumer decision-making is preceded by a series of cognitive processes (Foxall & Goldsmith, 1994: 27), it implies that the consumer uses cognitive structures throughout the decision-making process. Although it is true that for many products and services, purchase decisions are the result of a long, detailed process that may include an extensive information search, brand comparisons and evaluations, and other activities, some purchase decisions are more incidental and may result from little more than seeing a product prominently displayed at a discount price in a store or on the web. Apparel products often fall into the latter category (Du Plessis & Rousseau, 1990:11; Foxall & Goldsmith, 1994:27-31; Churchill & Peter, 1998:142). Marketers should be aware of the fact that in spite of planned purchase activities, product knowledge and experience, consumers also use their cognitive structures (schemata) to simplify the decision-making process. Schemata are based on personal observation and interpretation of specific situations and stored in memory to be used as frame of reference for decision-making (Baron & Byrne, 1997: 76-77; Kaiser, 1998: 252).

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Due to the ever-growing global market, a wider variety of products have become available from different sources. One of these is the relatively new experience of purchasing apparel online. Various researchers have predicted that the online purchase of apparel will become increasingly important in the future (Goldsmith & Goldsmith, 2002; Lee & Johnson, 2002; Park & Stoel, 2002). Understanding what creates a satisfying customer experience becomes crucial as more so-called e-retailers promise their customers that online buying experiences will be satisfying. More studies are now emerging where factors, which make consumers (and more specifically, apparel consumers) satisfied with their e-tailing experiences, have been investigated (Szymanski & Hise, 2000: 309; Elliot & Fowell, 2002; Evanschitsky, Iyer, Hesse & Ahlert, 2004).

Consumers of apparel products seem to be more concerned with quality than ever before and are more likely to purchase a product that they perceive as having good quality than one to be lacking in quality (Birtwistle, Clarke & Freathy, 1998; Kadolph, 1998: 12). Different consumers use different dimensions when evaluating quality. Although consumers seem to use textile attributes to determine product quality, very few seem to have a thorough enough knowledge of textiles to make accurate quality judgements at the point of purchase. It can also be said that consumers' perception of apparel quality is multidimensional as they use a variety of informational cues as well as their expectations when assessing quality (Hines & O'Neal, 1995; Swinker & Hines, 2006). Internet purchasing compounds this problem as these consumers don't have the advantage of being able to actually see and feel the textile. They often have to solely rely on photographs and descriptions of fabric properties (Brown & Rice, 1998: 42-46; Kadolph, 1998: 32-35).

In this study the goal/objective is firstly to determine which quality cues adult female consumers use when purchasing apparel for formal day (office) wear and for casual wear. The second objective is to use this information to develop an online guide for apparel consumers. The guide should provide textile information pertinent to consumers when making purchase decisions. As no South African apparel retail website currently supplies more than sizing

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and care related information, this study could fill the need for more textile information that could serve as a guide when consumers purchase garments on the Internet.

1.2   THEORETICAL BACKGROUND

1.2.1 The Internet as new shopping environment

Online environments can be as varied as offline environments. The same person operates in different settings, and this brings out different aspects of human potential. "We don't mutate into new species when we connect to cyberspace, but the psychological factors that affect our behavior in real life play out differently online because the environments we enter are different" (Wallace, 2001). The same could be said about cognitive factors that affect decision-making, as cognition plays a critical role in a person's capability to construct reality, encode information, and perform behaviours (Pajares, 2002). With regard to this study it means that consumers will use (and probably adapt) their existing apparel purchasing practices to understand and utilise this new shopping environment (Foxall & Goldsmith, 1994: 49 -50; Jacobs, 2003: 28 -29).

No other innovation has received as much attention from retailers, manufacturers, consumers and general public as the Internet, or e-tailing (Grewal, Iyer & Levy, 2004). The past decades have not been without new shopping options. Consumers have been provided with discount stores, supermarkets, warehouse stores, direct sales and home shopping cable networks. The difference between this variety of shopping options and e-tailing (the Internet) is technology. Until the emergence of these new shopping options, relatively few technological innovations have been used in retailing (Burke, 2002; Grewal *et al.*, 2004).

Today the Internet provides consumers with a way of shopping that is affecting the way they search for products and services. The Internet is

becoming increasingly popular and even non-shoppers have indicated that they have used the Internet for information searches that led to purchases in more traditional retail environments (Vijayasarathy & Jones, 2001). Understanding this new shopping environment and how it impacts on consumer behaviour has become increasingly important for retailers and marketers who have to compete in this fast expanding marketplace (Constantinides, 2004). By adding a link to a consumer guide that provides relevant textile information, retailers could give their websites the necessary "edge" to attract more consumers who are then supplied with more knowledge to help them in their decision-making process.

1.2.2 Internet consumer behaviour and decision-making

The social cognitive theory explains how people acquire and maintain certain behavioural patterns. The environment, people and behaviour are important elements constantly influencing each other (Pajares, 2002). Decision-making is determined by the way people think, process information, and use the processed information that is stored in memory (Foxall & Goldsmith, 1994: 27-28).

Foxall and Goldsmith (1994: 27-28) describe the cognitive consumer as a highly involved consumer whose behaviour and decision-making is preceded by a sequence of mental information processing. These consumers are problem-solvers and seek and use information to solve these problems and facilitate decision-making. Their behaviour is largely determined by the way they think and process information. Consumers are also credited with the capacity to receive and process considerable amounts of information and undertake extensive searches and evaluations. The received information is classified by the individual and transformed, after mental processing, into attitudes and purchase intentions (Foxall & Goldsmith, 1994: 28; Compeau & Higgins, 1999).

Various researchers in the field of clothing have emphasised the importance

of the use of a specific frame of reference to study clothing behaviour (Kaiser, 1998:1-4; Davis & Lennon, 1991, Nagasawa, Hutton & Kaiser, 1991). These frames of reference could also be used to explain the decision-making and buying behaviour of the consumer of apparel. Aspects such as need recognition; information search, processing, evaluation and response are addressed and connected to social cognition (Damhorst, 1991; Kaiser & Damhorst, 1991; Nagasawa, Hutton & Kaiser, 1991). Authors such as Eckman, Damhorst and Kadolph (1990) and De Klerk (1999) have suggested models for decision-making by apparel consumers. According to these models, humans are cognitive beings who strive to make sense of their environment.

Research on the Internet consumer's behaviour and decision-making is on the increase, but basic research done on the traditional consumer is still used by many retailers when planning their web presence. It is therefore important to do more research on online consumers, their specific behaviour, concerns and needs, and how these aspects impact on their decision-making, purchase behaviour and eventual satisfaction (Häubl & Trifts, 2000; Fortin, Dholakia & Dholakia, 2002; Kim & Stoel, 2003; Siddiqui, O' Malley, McColl & Birtwistle, 2003; McKinney, 2004; Rosen & Purinton, 2004).

1.2.3 The online apparel consumer

With the advent of the Internet as new shopping environment, new problems and questions arise for the online consumer, and more specifically, the online apparel consumer. As research on the online apparel consumer's purchasing behaviour is still in its infancy, the unique problems encountered online are only now starting to be investigated (Goldsmith & Flynn, 2004; Ha & Stoel, 2004; Phau & Lo, 2004). As these consumers do not have the advantage of actually seeing and handling the products, their judgement of certain characteristics is limited and this could influence their expectations, choices and eventually satisfaction with online products.

Although research regarding the female Internet user's clothing behaviour and her decision to purchase online is starting to increase, the focus has been mainly on the acceptability, use or preference of the Internet for apparel purchases (Dancausse & Cassill, 2000; Jackson, Kinkade, Giddings & Carrol, 2000; Manikowske & Bastow-Shoop, 2000; Jacobs, 2003). A limited amount of research has been done on consumers who have purchased apparel by mail order (catalogue shoppers) (Shim & Drake, 1990; Kwon, Paek & Arzeni, 1991; Shim & Kotsiopulos, 1992). Some researchers have related the problems and risks relevant to the catalogue shopper, to the problems and risks that the online consumer of apparel products encounters (Duffy, 2004; Keen, Wetzels, De Ruyter & Feinberg, 2004).

Although studies concerning the Internet as new shopping environment and the Internet consumer are on the increase, only a few studies have been specifically aimed at the problems that online apparel consumers encounter regarding the disadvantages of not being able to actually see, touch/ handle or try on the garment before making the decision to buy (Beck, 2002; Fiore & Jin, 2003, Sasaki, Ikeda & Shimizu, 2004).

It is important to view online purchasing behaviour, perceptions, expectations and satisfaction from the consumer's viewpoint (Zeithaml, 1988; Goldsmith & McGregor, 2000). This would also ring true for the online purchaser of apparel. Although more research on the online consumer has been done since the beginning of the new millennium (Elliot & Fowell, 2002; Goldsmith & Goldsmith, 2002; Lee & Johnson, 2002; Park & Stoel, 2002; Evanschitsky *et al.*, 2004), more attention should be given to resolving the problem of the limitations of the Internet and to supply the online apparel consumer with clear visual images and more sensory information of available products (Fiore & Jin, 2003).

A need also exists for empirical research on the South African Internet apparel consumer as, with one exception (Jacobs, 2003), the studies referred to were planned and executed in America, Asia and, to a lesser extent, in a European context. Another contentious issue in the South African context is

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that very little textile information is supplied in any retail environment. Consumers often have only a very limited textile knowledge, which is usually based on experience. By developing and implementing a consumer guide, consumers could be educated to demand more accurate and informative textile labelling to help them when making purchase decisions.

1.2.3.1   The apparel consumer's assessment of quality and specific problems encountered by online apparel consumers

Different consumers use different cues to assess the quality of apparel products, and it seems that they are not always sure how to assess the quality of textiles and apparel (Brown & Rice, 1998: 42, 44-5; Hines & Swinker, 2001). Consumer knowledge of the combination of materials used in a garment or the process used to make the garment is usually very limited (Kadolph, 1998:34). The result is that the consumer's perception of quality at the point of purchase is a strongly subjective phenomenon (Brown & Rice, 1998: 44; Kadolph, 1998:23). Another complicating fact is that quality, in this case, apparel textile quality, is a multi-dimensional construct that cannot be measured by a single cue or attribute (Zeithaml, 1988; Fiore & Damhorst, 1992; Abraham-Murali & Littrell, 1995b). Consumers often judge quality of products based on a variety of informational cues. Some of these cues are intrinsic (fibre, colour, fabric hand) while others are extrinsic (price, brand name, place of purchase) (Brown & Rice, 1998: 44; Kadolph, 1998: 23; Schiffman & Kanuk, 2000: 155-6, Lubbe, 2003: 118). Consumers rarely possess complete information about a product at the point of purchase and often have little knowledge of the materials combined in the product or the processes used to make the product. They therefore tend to rely on prices, brand names or advertising when making purchase decisions (Kadolph, 1998: 23; Schiffman & Kanuk, 2000: 156) or use their own ways of assessing certain properties, for example, scrunching the fabric to assess crease resistance (Jacobs, 2003:138). All these aspects serve to indicate how complicated the assessment of quality can be. This can eventually result in unsatisfied consumers when quality is judged after purchasing and during

use. This in turn can lead to the need to exchange items, which is influenced by the specific exchange policy and ease of exchange. All these aspects play a role to make decision-making for the online apparel consumer more complicated. In the long run this could also be problematic for the retailer who could lose customers as a result.

One can conclude that if the assessment of the quality of apparel products were complicated in the traditional retail environment, it would be even more daunting for the online consumer. Understanding the needs and problems of the online apparel consumer is important to ensure a positive shopping experience and eventually satisfaction. Research that specifically investigates the problems encountered by online apparel consumers would therefore be of value to both consumers and e-tailers.

1.2.4   The interactivity of the Internet and the importance of online interactive decision aids

In the recent past the Internet has emerged as a dynamic means for channelling transactions between customers and firms in a virtual marketplace. The rapid growth of this new marketplace poses intriguing questions for academic research, not on only regarding the role of the Web as information and communications medium, but also the issues related to shopping on the Internet (Swaminarathan, Lepkowska-White & Rao, 1999). Growing online competition and maturation of Internet technology have also had a positive influence on website factors, beyond extensive product offerings, customer convenience, ease of navigation, and security, that all affect online marketing success (Vijayasarathy & Jones, 2000; Fiore & Jin, 2003). Fiore and Jin (2003) refer to the interactivity of the net and the use of new technology to customise presented information, facilitate communication, and entertain the consumer. Examples of this interactivity include "24/7" customer service representatives via e-mail, active server pages that permit customers to customise information that appears on the web page, 3-D virtual tours, contests and games. These aspects have been embraced by

online marketers to entice consumers to visit their websites, purchase online, and be satisfied enough to become a repeat visitor (Mathwick, Malhotra & Rigdon, 2001; Li, Daugherty & Biocca, 2002 & 2003; Fiore & Jin, 2003).

These new technological innovations open up a range of possibilities for the online apparel retailer. To overcome the lack of sensory or aesthetic features of online textile products, an increasing number of apparel websites are incorporating image interactivity to provide this information, but have not yet been sufficiently tested to gauge the impact on the online apparel consumer's shopping experience (Fiore & Jin, 2003). It is therefore implied that after having developed the consumer guide, it should be thoroughly tested to ascertain if it supplies sufficient textile specific information to make it easier for the online South African consumer to purchase garments for office and casual wear from the Internet.

1.2.5   The expected significance of the study

It is important that e-tailers and marketers are aware of the problems confronting the online apparel consumer, as well as how the newness of the Internet as shopping environment, and its interactive possibilities can influence the consumer's online decision-making behaviour. Effective strategies have to be developed to utilise the benefits of Internet shopping and limit the risks and uncertainties experienced by consumers (Watchravesringkan & Shim, 2003).

Jang and Burns (2004) also emphasise the importance of effective strategies used by e-tailers to differentiate themselves from competitors while providing a satisfactory online experience for the consumer. An important observation is that this satisfactory online experience is not based on what information is available, but on how the information is provided. Goldsmith and Flynn (2004) as well as Ha and Stoel (2004) agree that it is important to study consumers' online behaviour and perceptions, but point out that e-commerce apparel managers should focus more effort on wooing Internet innovators (innovative

information searchers) than fashion innovators. Internet innovators are active information seekers and are attracted by new information - their interest could be raised by attractively presented textile information, which in turn could help them during the decision-making process and lead to repeat visits to the site (Gaal & Burns, 2001; Fiore & Jin, 2003; Sasaki *et al.,* 2004). As textiles play a very important role in the decision making process of garment purchases, retailers with an understanding of these factors, as well as an understanding of the value of online decision making aids, can contribute to satisfying the needs of these consumers and facilitate a positive online experience (Brown & Rice, 1998: 38; Sasaki, *et al.*, 2004).

Research focusing on online apparel consumer behaviour and decision-making, can also make a valuable contribution to the development of theory and frameworks for the studying of online apparel consumers' behaviour. Research planned and executed in a South African context, regarding the use and effectiveness of interactive information aids for the purchase of apparel, should be of value to different role players. The importance of textile information should be emphasised here, as textiles determine both the physical features of the garment as well as the performance features. The physical features (type of fibre, yarn, fabric and finish) will influence the type of design as well as the construction of the garment. The performance features will influence the garment's utility in terms of durability, comfort, and care procedure and all-over serviceability. Last, but not least, the sensory aesthetic aspects, how the textile feels and how it looks, are also determined by the choice of the textile (Brown & Rice, 1998: 42 – 46; Fiore & Kimle, 1997: 39, Fiore, 2002). All these aspects play a very important role in determining the satisfaction with the purchased garment. It is therefore very important to compile a guide with enough relevant textile information so that consumers can make more informed decisions when purchasing garments on the Internet and eventually be more satisfied as a result.

1.3   THE CONCEPTUAL FRAMEWORK, PROBLEM STATEMENT, AND OBJECTIVES

1.3.1 The conceptual framework

The first step in developing the conceptual framework was to look at the dimensions of the quality of textile products. As already mentioned, perceived quality of apparel can include both intrinsic and extrinsic attributes.

- The conceptual framework indicates that in this study the focus is on the formal intrinsic aspects of textiles that are used by consumers to help them assess the quality of apparel textiles when making purchase decisions
- The framework also indicates that formal aspects of textiles are related to their functional performance aspects
- Although the focus is not on the aesthetic aspects of textile products, these aspects are also linked to both the formal and performance aspects as comfort includes fit and other sensory aspects, which in turn influence the aesthetic appearance
- The focus was also not on extrinsic aspects, but as some consumers equate price with quality, the link is also indicated

From the conceptual framework it is clear that the physical and performance features used by consumers as quality indicators will be used to develop a consumer guide that supplies textile information regarding garments for formal day and casual wear.

The conceptual framework also indicates how the quality assessment guide is intended to help the online apparel consumer in the information search, evaluation of alternatives and eventual purchase decision.

The development of a textile quality assessment guide that addresses these problems could assist online consumers in their decision-making process.
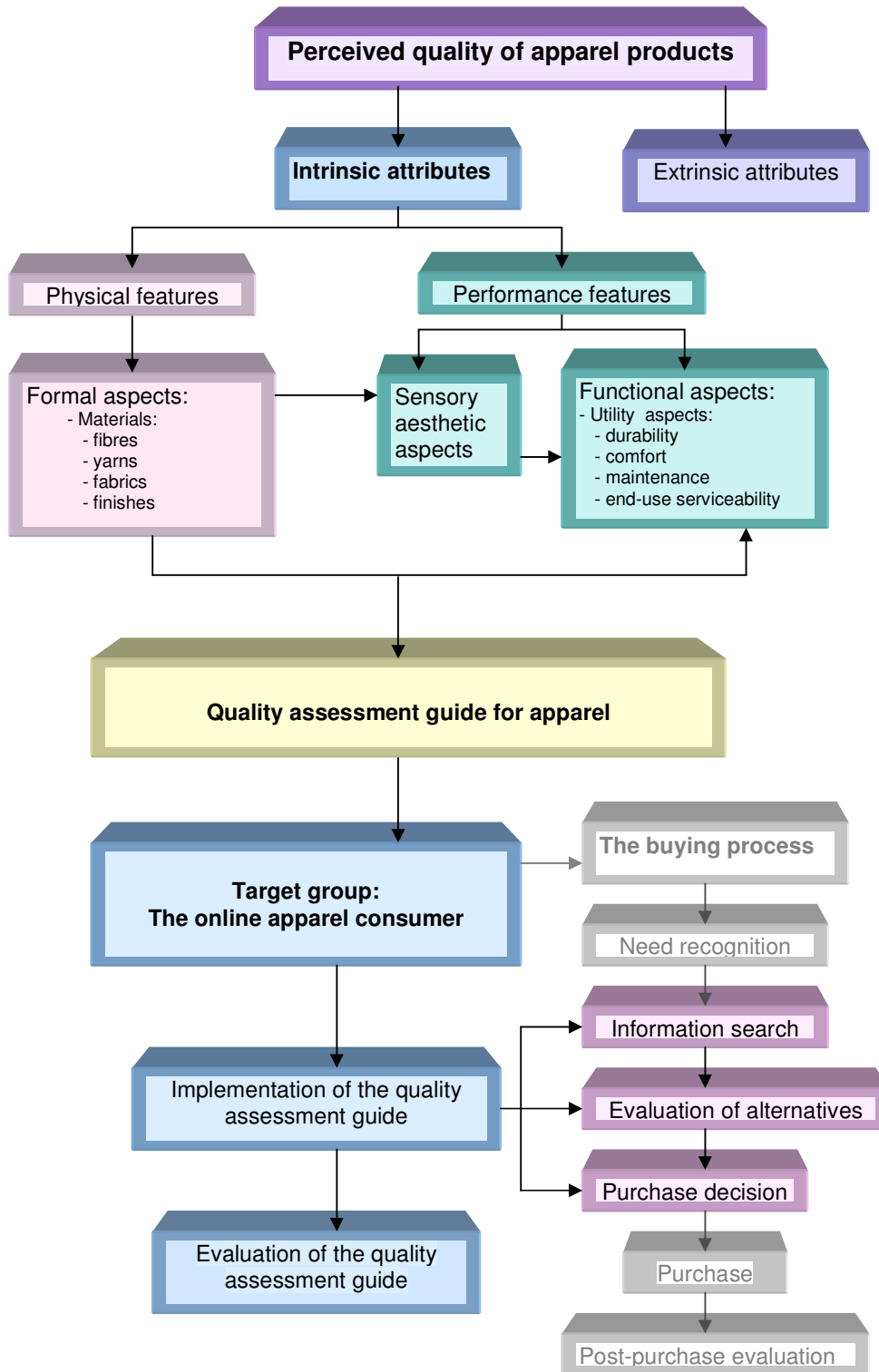
FIGURE 1: SCHEMATIC CONCEPTUAL FRAMEWORK FOR THIS STUDY

1.3.2 The problem statement

In view of the problems encountered by online consumers to assess quality of apparel textiles, the following problem was stated for this study:

Which textile related attributes should be incorporated in a quality assessment guide to facilitate the online decision-making process of adult career women when purchasing apparel for formal and casual daywear[1]?

To be able to compile a useful textile quality assessment guide, the study was divided into three different phases.

The first phase:
The aim of the first phase of the study was to determine which textile quality cues career women use when purchasing garments for formal day (office) and casual wear. (In other words, the first phase of the study addressed the question: *Which textile related attributes should be incorporated in a quality assessment guide*?). The emphasis was on intrinsic attributes, which include the formal physical and functional performance aspects, as well as the sensory aesthetic aspects of touch and feel.

Development of the guide:
The next step was to develop an online quality assessment guide for textiles by using the information obtained in the first part of the study.
The intrinsic quality attributes identified in the first phase of the study were used in the development of the online guide for textile quality assessment.

Final investigation:
The final step was to test the guide and answer the following question:
 Does the textile information included in the textile quality assessment guide facilitate decision-making by adult career women about fabric quality when purchasing apparel for formal and casual daywear online?

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[1] For this study formal daywear would be the outer garments worn to the office/work by career women, while casual daywear refers to garments worn art home or to informal occasions.

Here the aim was to determine if the guide facilitated the decision-making process while making an online purchase. A social-cognitive approach was used in the study.

1.3.3 Objectives and sub-objectives for the study

In view of the problem and review of the relevant literature, the following objectives were set for this study:

1.3.3.1   **Objective 1:** To obtain specific information about intrinsic textile related aspects that career women use in their decision-making when assessing the quality of apparel products.

- **Sub-objective 1:**   To determine if adult female consumers use formal, physical features of textiles (i.e. fibre, yarn, fabric structure and finish) in their assessment of the quality of apparel textiles.

- **Sub-objective 1.1:** To determine if adult female consumers relate the formal, physical features of textiles to performance when assessing quality during the decision making process.
  The aspects covered included the following:
  1.1.1 Do consumers relate the formal features of textiles to the functional performance aspect of durability?
  1.1.2 Do consumers relate the formal features of textiles to the functional performance aspect of comfort (including sensual appeal)?
  1.1.3 Do consumers relate the formal features of textiles to the functional performance aspect of maintenance?
  1.1.4 Do consumers relate the formal features of textiles to the functional performance aspect of end-use serviceability?

- **Sub-objective 1.2:** To determine the importance of label information
  1.2.1 Do consumers use label information to assist them when making purchase decisions?

1.2.2   Do consumers use a specific type of label information to assist them in their decision-making?

1.3.3.2   **Objective 2:** To develop a guide for assessing textile quality online using the data obtained in the first phase of the study.

1.3.3.3   **Objective 3:** To test the guide to determine if it facilitates decisions concerning the assessment of fabric quality when purchasing apparel products online.

1.4   THE PRESENTATION AND OUTLINE OF THE STUDY[2]

The written report of the research indicates how the research was developed and carried out. The second and ensuing chapters will include the following:

1.4.1   Chapter 2: The theoretical background: The Internet, Internet consumer and interactive possibilities of the Internet in the field of apparel textiles

Internet and Internet consumer, online apparel consumers and the perception and assessment of textile quality, as well as the value of online interactive aids are discussed against the background of a social-cognitive theory. This formed the background for the conceptualisation, operationalisation, research design, and research methodology.

1.4.2   Chapter 3: Research methodology for the first phase of the study

This chapter consists of the description and justification of the research design, the problem statement, the objectives and sub-objectives, the choice of respondents, quantitative data-collecting techniques and procedures, data sources and data analysis.

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[2] Referencing method used in this study: Adapted Harvard method as compiled by Information Services of the University of Pretoria
Language used in study: Oxford English and English (UK) spelling and grammar check

The development of the questionnaire for phase 1 is discussed.
Objectivity and reliability are discussed as well as measures to ensure/
improve the quality of the data and to eliminate research mistakes.

1.4.3   Chapter 4:   Data analysis, presentation, discussion and interpretation of results of the first phase of the study

Chapter 4 is used for the data analysis, presentation, discussion and interpretation of the results of phase 1.
In this chapter the results of each sub-objective of phase 1 are presented in tables and discussed. These results are also interpreted and possible explanations are discussed.

1.4.4   Chapter 5: Research methodology for the second and third phases of the study

In this chapter a justification is given for the inclusion of specific items in the quality assessment guide, as well as how this information was used to develop a mock website with links to specific textile information (the on-line guide) regarding the products on offer.
The development of the questionnaire for phase 3 is discussed as well as how the guide was presented and tested.
Objectivity and reliability are discussed as well as measures to ensure/
improve the quality of the data and to eliminate research mistakes.

1.4.5   Chapter 6:   Data analysis, presentation, discussion and interpretation of results of the final phase of the study

In chapter 6 the results of the final phase of the study are analysed, presented, discussed and interpreted, and possible explanations for these results are discussed.

1.4.6   Chapter 7: Conclusions and recommendations

In the final chapter the study is evaluated objectively regarding its strong points and possible weaknesses. Recommendations are made for future similar studies, as well as recommendations for retailers with an online presence.

CHAPTER 2

THE INTERNET, INTERNET CONSUMER AND INTERACTIVE POSSIBILITIES OF THE INTERNET

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2.1   INTRODUCTION

The retail and consumer services sector has rarely been faced with a challenge of such significant complexity and uncertainty, which has grown as rapidly as e-Commerce (Reynolds, 2000). This so-called "new" economy is still changing continuously, and whilst many of the old "rules of the game" still remain intact for retailers and consumers, a number have completely changed and new strategies have had to be developed to suit this new environment (Reynolds, 2000; Fortin *et al.*, 2002).

According to Fortin *et al.* (2002) the future development of the web as an e-commerce platform will increasingly depend on understanding the process by which people will use this new communication technology. Some argue that the new electronic environment is just a different context for existing theories, while others are convinced that the new environment requires a new set of theories adapted to a radically changed marketplace (Peterson, Balasubramanian & Bronnenberg, 1997; Mundorf & Bryant, 2002).

Pajares (2002) describes human functioning as a product of a dynamic interplay of personal, behavioural and environmental influences. He emphasises that cognition plays a critical role in people's capability to construct reality, encode information, and perform behaviours (for instance, make decisions). In this Chapter the Internet as new shopping environment, Internet consumers in general, and Internet apparel consumers in particular, as well as consumer perception of quality is discussed against this background.

2.2   THE INTERNET AS NEW SHOPPING ENVIRONMENT

E-tailing is the newest retail format in use. The technology characteristics and potential worldwide reach, creates additional markets (Grewal *et al.*, 2004; Shiu & Dawson, 2004).

It is becoming more important to integrate the Internet into retailer's competitive marketing strategy with the market environment that has evolved to include the electronic marketplaces. There is a new emphasis on providing product-related information to customers, new ways of communicating with customers, ways to promote products, conduct transactions, distributing digital or digitisable products, and trial and sampling possibilities of the available products (Varadarajan & Yadav, 2002).

Retailers have historically relied on theoretical and decision-making frameworks to plan their retail strategies. The so-called four Ps (product, pricing, placement and promotion) do not always apply in the same way to the Internet (Constantinides, 2002a & 2002b). Internet-unique capabilities are significantly changing marketing thought and practice in each area of the marketing mix. While research has shown that opinion leaders and market leaders play an important role in the diffusion of innovations, the ease with which their evaluations can be communicated by the Internet, may influence their role in ways difficult to predict (Citrin, Sprott, Silverman & Stem, 2000; Cowles, Kiecker & Little, 2002; Constantinides, 2004). Cowles *et al.* (2002) contend that, although the Internet is first and most importantly a communications medium, its wide ranging capabilities across all areas of the marketing mix complicate the application of traditional theoretical perspectives to retailing in this evolving medium. These unique characteristics have no counterpart in conventional retailing. This makes it necessary to construct specialised theories that would be applicable to the Internet (Peterson, 1995; Cowles *et al., 2*002).

Fortin *et al.* (2002) compare the evolution of Internet to the evolution of other communication technology, such as the radio, broadcast television, cable TV, and cellular phones. Some similarities like the
 initial high cost of the new technology is pointed out as well as the eventual lowering in price of the hardware and certain free services that come with the purchase of the computer. The differences are also pointed out, the main difference being the interactive nature of the new medium. Power is transferred back to the consumer, which in turn changes the foundations of business – there is a return to a more balanced power relationship between buyers and sellers. It is suggested that self-service technologies, such as the Web, empower consumers to do repeated transactions, which then eventually lead to better levels of satisfaction (Fortin *et al.*, 2002). This implies that the availability of an online quality assessment guide for textiles supplies the consumer with a tool that enables her to make more informed decisions even though she cannot touch and feel the products available online. This could empower her to do repeated transactions with a greater level of confidence, and could eventually ensure a greater satisfaction with the purchased products.

Jang and Burns (2004) and Gray (2005a), found that the Internet offers apparel shoppers convenience and good shopping information. Liu (2001) indicates certain emerging patterns in the ever-increasing number of online buyers. He contends that the same consumer who buys in stores is now buying online, and their demands are the same as for in-store buying – they expect the same merchandise selection, product quality and brands, as well as shopping experience. Jacobs's (2003:186) findings regarding the South African consumers confirm this statement. Online consumers expect to find information about products, pricing, ordering, delivery and post-purchase support (Levenburg, 2005). Liu (2001) also emphasises that consumers, who have become more familiar and trusting with their online buying options, will push companies to make their online technology work the way the users want it to work. They therefore expect, for instance, that when buying apparel they would be able to make the same type of decisions as in store. An online textile quality assessment guide could help to satisfy this expectation.

An advantage of technological improvement is that technology provides a new experience to consumers. They learn about products through direct experience such as inspection or trial, and indirect experience such as advertising or word of mouth. A new type of mediated experience, virtual experience, is also made possible through technological advances (Kulviwat, Guo & Engchanil, 2004). This new technology can be utilised in an online textile quality assessment guide to give the consumer a better idea of the structure and properties of textiles. This could make up for the inability to touch and feel the product.

Internet capabilities and characteristics challenge traditional frameworks for decision-making. In the first place, the Internet can play a role at every level of these traditional frameworks – it can gain attention, create interest, persuade consumers, ask for the sale, carry out the transaction, and provide a means of feedback. In the second place, the Internet can be used effectively and efficiently for both mass and one-to-one communication. Sender and receiver roles can easily be traded between retailers and their customers (power is transferred back to the consumer) – this often places new demands on e-retailers to be responsive to customer communications. All these characteristics should be carefully considered when planning a web-presence so that optimal levels of satisfaction are insured for all parties concerned (Cowles *et al.,* 2002; Fortin *et al.,* 2002).

To identify the impact of the Internet as new retail environment, consumer behaviour research relating to this new environment is needed to give a more accurate representation of how consumers will make choices relative to the Internet. According to Keen *et al.* (2004) consumer behaviour literature should be re-examined as well as more recent literature on acceptance of technology and applied to this relatively new consumer decision-making process. Some researchers have used the distributed cognitive approach to explain the interactions among humans and technological devices for a given activity. In the distributed cognitive framework the same aspects relative to cognitive theories are used, but are extended. This enables one to focus not only on the individual, but also on the individual in interaction with a set of

tools (Hollan, Hutchins & Kirsch, 2000). As technology increases the alternatives for consumers, it is important to understand what motivates consumers to shop using a specific retail format. Although researchers have examined a number of variables and constructs in an attempt to understand retail format selection and non-store purchasing behaviour, more research is necessary for theory building (Alba, Lynch, Weitz, Janiszewski, Lutz, Sawyer & Wood, 1997; Vijayasarathy & Jones, 2000; Cowles *et al.,* 2002; Burke, 2002; Goldsmith & Flynn, 2004; Ha & Stoel, 2004; Keen, *et al.,* 2004; Kulviwat *et al.*, 2004; Rohm & Swaminathan, 2004; Hsieh, Chiu & Chiang, 2005).

It is further necessary to investigate under which circumstances and conditions different consumers will accept electronic commerce. The emergence of the electronic marketplace has been associated with a number of developments. These developments include greater information richness, lower information search costs for buyers, less information asymmetry between buyers and sellers, electronic spatial proximity of buyers and sellers, and a greater elapse in time between time of purchase and possession of physical products purchased in the electronic marketplace (Varadarajan & Yadav, 2002). The contextual relevance of factors such as industry structure characteristics, product characteristics, and the buying environment for competing in the electronic marketplace have also been explored in recent research (Burke, 2002; Hoffman & Novak, 1996; Alba *et al.,* 1997). In spite of all the research being done, the apparel shopper is still at a greater disadvantage than shoppers of other online products. Although apparel websites are improving as evidenced by the steady increase in online apparel shoppers (Gray, 2005b), there is still a lack of research to address the problem of online consumers who are unable to judge the feel and other sensory properties (textural information) of textiles (Fiore & Jin, 2003).

Essentially an electronic marketplace performs the same set of functions as a physical marketplace – they both bring buyers and sellers together. They do, however have certain distinguishing characteristics, the most obvious being that the enabling structure is electronic rather than physical. This leads to a

number of other differences. Interacting with other marketplace participants may involve activities such as a buyer accessing information about product quality and price of competing brands from an entity other than a seller (a so-called informediary), and engaging in a conversation about product quality and price of competing brand offerings with past or prospective buyers in an electronic chat room. More of these additional characteristics may evolve as the electronic marketplace evolves (Varadarajan & Yadav, 2002). Some progress has been made by certain e-tailers by making provision for live chat lines or chat rooms that allows shoppers to ask questions about merchandise or to converse with a friend and a company sales representative at the same time (Jang & Burns, 2004). This could also be something to keep in mind when developing (or expanding and improving) an online textile quality assessment guide.

Another aspect that is crucial to understand is the concept of interactivity of current buyer-seller activities in the electronic marketplace. Hoffman and Novak (1996) distinguish between unmediated interactivity (face-to-face) and mediated interactivity (between two individuals facilitated by a device). In the context of the Internet environment, interactivity would refer to a user's ability to alter the environment experienced via a computer (Hoffman & Novak, 1996). Varadarajan and Yadav (2002) envisage even higher levels of interactivity in the future. Understanding the evolution of different forms of media technologies can provide clues about how buyers and sellers may embrace (or resist) higher levels of interactivity in the electronic marketplace. In recent research on apparel websites a greater level of interactivity has been proposed, for instance the use of a virtual figure (that can be scaled to represent different sizes) to give a better idea of garment fit (Li *et al.*, 2002; Lee, 2002; Fiore & Jin, 2003). The same type of technology could, in future, be used to demonstrate textile features. The possibilities to explore these new technologies are numerous.

In this confusing new shopping environment, some aspects of buying are enhanced and made easier and more convenient for the consumer, but other aspects make decision-making more complicated. Product tangibility,

especially relating to textile products (e.g. fabric texture), that require tactile feedback may be difficult to communicate in electronic settings. On the other hand, tangible attributes that have some degree of standardisation (e.g. neck size of men's shirts) can be evaluated with relative ease (Alba *et al.,* 1997; Varadarajan & Yadav, 2002). The greater information search capabilities of the Internet would benefit buyers even for products that need large amounts of information to facilitate evaluation, acquisition, and use (Varadarajan & Yadav, 2002). These aspects will be addressed in the discussion of the influence and the value of interactive electronic aids in the Internet shopping environment.

2.3 THE INTERNET SHOPPER: EXPECTATIONS, CONCERNS, BEHAVIOUR, AND DECISION-MAKING

2.3.1 Internet consumers' expectations and concerns

In the late 1990s a variety of studies were done to determine which factors can be considered important influences on the growth of Internet shopping, and included store / site attributes, product type, and consumer experience of Internet shopping (Hoffman & Novak, 1996; Alba *et al.,* 1997). Elliot and Fowell (2002) contend that these aspects should be inter-related as the experience of customers is not independent of the nature of the Web shopping site or the range and type of products available. These studies provide a useful point of departure for further research. It was evident from these studies (Lohse & Spiller, 1998; Spiller & Lohse, 1998) that Internet consumers expect to be able to choose from a larger range of products. They also expect certain general levels of service and are satisfied with the capability of "buying anytime, from anywhere".

According to Larry Freed, an online satisfaction expert (Kuchinskas, 2005), price is seldom a very significant factor in whether people like an e-commerce site. According to Freed customer satisfaction issues are accelerated online. If the customer is not getting what he/she needs on one site, it only takes a click to go

to a competing e-tailer. When physically at one brick-and-mortar store, it is more of an effort to go to a competitor. Overall, there was a lack of understanding of consumer's expectations also concerning privacy policies, return policies, and delivery time and cost. Convenience and ease of use were regarded as the main benefits of online purchasing and lower prices were not cited as an advantage, indicating that consumers were looking for other benefits from the online experience (Siddiqui *et al.,* 2003). An apparel website that adds value (i.e. more textile related information) would more likely ensure a satisfying shopping experience.

Perceived advantages and expectations of online consumers therefore include amount of product information, ease of use, speed, and convenience. Online consumers are concerned about credibility and security (and some even expect to have problems). According to a Forrester Research Report done in 2000 (Forrester Report, 2003) scepticism about the need to touch, feel and try on a product, lack of comparison-shopping and the desire to speak to a store clerk (via e-mail or telephone) before making a purchase, were some of the concerns. More information regarding textile properties and quality could help consumers to form a clearer impression of a product that cannot be touched or handled (Fiore & Jin, 2003) – something that could be achieved with an online textile quality assessment guide.

2.3.2 Internet consumer behaviour, decision-making and identified shopping orientations

Several theoretical perspectives fall under the umbrella term "social cognition" and create a useful framework in which to organise and analyse research. Detailed models from cognitive psychology are important because they precisely describe mechanisms of learning and thinking that apply to a wide variety of areas. As these models apply to a variety of areas, and because cognitive processes presumably influence social behaviour to a large degree, it makes sense to adapt the cognitive theory to explain consumer decision-making and buying behaviour (Fiske & Taylor, 1991:2).

A cognitive model views the human as an active agent who receives, uses, manipulates, and transforms information. Humans mentally manipulate images, symbols, and ideas. They think, plan, solve problems, and make decisions. According to this model humans are cognitive beings who strive to make sense of the environment.

For the purpose of this study the basic assumptions on which a social-cognitive perspective rests, are relevant. From this it is concluded that the key to understanding human behaviour lies in the understanding of how people perceive and process external stimuli (Baron & Byrne, 1997: 78-9; Lennon & Davis, 1989a; Kaiser & Damhorst, 1991; Nagasawa, Hutton & Kaiser, 1991; Roach, 1994). In the context of this study this would refer to the way Internet apparel consumers access and process the information supplied on different apparel websites. The context within which information is presented and the way people search for information can have a pronounced effect on how information is interpreted, coded, and processed (Lennon & Davis, 1989b; Fiske & Taylor, 1991:348-350). Cognitive information processing is concerned with observable behaviours and how these behaviours are used to make inferences about underlying mental processes – mainly how individuals perceive and remember information (Perry, 2004). Barkhi (2002) contends that cognitive style explains how individuals prefer to receive information and what methods they use to process that information. He found that cognitive style and the mode of communication have interaction effects. Therefore, if the information for online apparel consumers is presented attractively, with various garment options that are easy to access (at the click of a button) as well as with additional applicable textile information, this could leave the shopper with a positive frame of mind, which would in turn facilitate decision-making. All this could contribute to a satisfactory online shopping experience.

The actual processing of information is the next major stage of social cognition. One of several factors that can come into play during this processing is the use of cognitive schemata. Consumers use internal mechanisms (cognitive structures) to receive, organise and make sense out of

the masses of information when processing external stimuli. From a social-cognitive perspective individuals try to explain and understand the social and commercial worlds with which they interact, and develop and use cognitive structures to do so (Fiske & Taylor, 1991: 98; Baron & Byrne, 1997:76-77). These cognitive structures (schemata) enable consumers to react to stimuli in the marketplace, to organise their thoughts and to simplify the decision-making process (Hawkins *et al.,* 1998: 348-349; Kaiser, 1998: 252). A social-cognitive perspective explains consumer behaviour and focuses on the activities involved in perceiving, thinking, reflecting and understanding. Consumers pay attention to stimuli relevant to their needs, wants and attitudes and store the information in memory to use as a reference framework to reinforce and enhance their decision-making (Foxall & Goldsmith, 1994: 49-50).

Cognitive structures (schemata) are created through experience with people, objects and events that are repeatedly encountered. The individual starts to generalise these experiences to develop an abstracted, generic set of expectations. Existing schemata can be modified when more information or experience is acquired (DeLong, Minshall & Larntz, 1986; Kaiser, 1998: 253; Erasmus, Boshoff & Rousseau, 2002). Schemata become filing systems which consist of organised prior knowledge extracted from experience, which guide the processing of new information, and facilitate retrieval, usage and integration of stored information (Baron & Byrne, 1997: 95; Lennon & Davis, 1989b; Ogle & Fiore, 2000). Foxall and Goldsmith (1994:75) refer to a special type of schemata, so-called scripts (event schemata) that can be seen as a stereotyped event sequence that consumers use in a purchasing situation. According to Jacobs (2003: 32 - 33) a well-known consumption situation such as apparel purchasing, will include a sequence of typical procedures and actions. Scripts can also be linked to expectations as they provide a platform for the consumer on which experience and future purchasing possibilities are built. New information can match an existing script – be consistent with expectations – and leave the script unaltered. If new information or a new experience cannot be fully accommodated in an existing script, the script evolves or is "tuned" (adapted) to include the new information or experience. When new information or a new experience is so

different that it cannot be accommodated in an existing script, a new script may be created, or an existing one restructured (Perry, 2004). In terms of this study, the online apparel purchasing experience may fall into the latter category as it may be so different from conventional apparel purchasing that the consumer is forced to create a new script. New information accessed through an online guide will be added to the script and used to make future online purchases, experiences that are more satisfying.

Individual differences are important in this context and can affect the way in which social information is processed and the extent to which attention is given to social stimuli. This is especially true for apparel bought either in-store or online. Consumers will for instance react differently to certain stimuli – for some the availability of a description of textile performance properties or good care labelling would help them to decide between two garments, while others judge solely on appearance and fashion trends. It would therefore be prudent to try to cater for a variety of different approaches when designing a website or providing information in an online guide (Baron & Byrne, 1997:94-101; Lennon & Davis, 1989b; Fiske & Taylor, 1991:99; Shiffman & Kanuk, 2000: 441).

Memory is important during pre-processing, processing, and post-processing of information. The meaning that is assigned to sensory impressions depends on both the background knowledge of the consumer and the context in which something is experienced. After a sensory impression (stimulus) has registered, it passes to the short-term memory (also known as the working memory). What happens to this information while in the working memory, will determine whether and how it will get stored in the long-term memory (Perry, 2004). Experience with previous positive purchases can influence the way new information is perceived, processed, used and evaluated when confronted with similar products and may influence judgements, cognitions, attitudes and recall. For information to be stored in the long-term memory it must be encoded and, in the long term, the encoding strategies that work best are those that emphasise meaningfulness. As online buying has only recently mushroomed, many online customers could revert to memory (prior experience) regarding

specific retailers and the type of products they have on offer. As many retailers with an online presence, also have "traditional" stores (as is the case In South Africa), this could influence the decision-making process for online shoppers familiar with the products offered in stores. Added, well-organised textile information, linked to familiar concepts could supply the mental "scaffolding" for new concepts, especially where shoppers do not have enough experience to make a good judgement when the sensory properties (touch and observation) are not available (as in the online situation) (Lennon & Davis, 1989b; Bettman & Park, 1991; Bettman & Zins, 1991; Perry, 2004; Sasaki *et al.,* 2004). In terms of this study organised, instructive textile information linked to familiar concepts would help the online apparel consumer with decision-making.

Consumer buying behaviour has always been a popular marketing topic, which has been extensively studied (Foxall & Goldsmith, 1994: 15; Belch & Belch, 1998: 103; Hawkins *et al.,* 1998: 26; Schiffman & Kanuk, 2000: 14). The consumer buying process is usually described as including learning, information-processing and decision-making activities that are divided into several consecutive steps, which include problem identification, information search, and evaluation of alternatives, the purchasing decision, and post-purchase behaviour (Foxall & Goldsmith, 1994: 29; Belch & Belch, 1998: 103; Hawkins *et al.,* 1998: 3; Schiffman & Kanuk, 2000: 443). High and low involvement purchasing is usually also mentioned, which indicates that the actual buying activity depends on the buyers perceived risks and experience (Foxall & Goldsmith, 1994: 27). It is also accepted that demographic, social, economic, cultural, psychological, and other personal factors (usually beyond the control of the marketer) have a major effect on consumer behaviour and purchasing decisions (Foxall & Goldsmith, 1994: 29; Sproles & Burns, 1994: 280; Schiffman & Kanuk, 2000: 438). Research on how these aspects affect the online consumer has become important in the recent past (Burke, 2002; Ha & Stoel, 2004; Kulviwat *et al.*, 2004). It is more likely that career women have a higher level of education as well as a higher income – they also fit the profile of women who would be more inclined to purchase garments online. These consumers would also be those who would want to know more about

a garment and how it will perform during use, before making a purchase decision. Once again additional textile information in an online guide would help the decision-making process – by acquiring more information on available products, the consumer is enabled to make a better match between her needs and wants and the product in question, and eventually make a better purchase decision (Mahmood, Bagchi & Ford, 2004).

According to O'Cass and Fenesh (2003), most researchers agree that, as in traditional markets, the interaction of controllable and uncontrollable factors play an important role in online decision-making. Consumer characteristics and environmental influences have been identified as the uncontrollable factors, while product / service characteristics, medium characteristics (the Internet), and merchant characteristics are identified as the controllable factors. Online marketers can influence the decision-making process by creating "a proper" web experience. The web experience is described as a combination of online functionality, information, emotions, cues, stimuli and products or services and is a new, additional input in traditional buying frameworks which can affect or even determine the outcome of the virtual interaction (Constantinides, 2000). If one takes into account that online customers are not simply shoppers but also information technology users, one can argue that the online shopping experience is more complicated than the shopping experience in a traditional shopping environment (Cho & Park, 2001). The web experience includes aspects like searching, browsing, and finding, selecting, comparing and evaluating information as well as interacting with the online firm. The online customer is influenced by the web page design, events, emotions, atmosphere, and other factors experienced while interacting with the specific web site and all these aspects will influence the eventual decision and outcome of the interaction (Constantinides, 2000 & 2004). The quality of the projected online experience is therefore an important issue for e-tailers to consider. Constantinides (2004) describes and defines what he sees as the building blocks for the web experience. He identifies the following factors: functionality (usability and interactivity), psychological factors (integrity and credibility), and content factors (aesthetics and marketing mix), and also indicates that the significance of each of these

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factors can differ depending on the buying situation, the type of consumers targeted by the website as well as the "visiting" client's intentions. All these factors are also applicable to apparel textiles. A textile quality assessment guide should be functional (increasing usability and interactivity), be credible (by supplying information pertinent to decision-making), be aesthetically pleasing in terms of how the information is presented, and add to the overall feeling of satisfaction because of added confidence when making a purchase decision.

These are all aspects that should capture the mix of motives and experiences of online consumers and should be considered when planning a retail website but, as this study is concerned with the online apparel consumer, it warrants a brief look into the specific problems these consumers encounter when purchasing online.

2.3.2.1   The online apparel consumer and expected Internet features

Online apparel consumers appear to be no different to other online consumers concerning their shopping motivations. They fall into the same general categories as other online and conventional apparel shoppers (Phau & Poon, 2000; Siddiqui *et al.*, 2003; Goldsmith & Flynn, 2004; Jang & Burns, 2004; Wilde, Kelley & Scott, 2004). It is however evident that those who shop online are often the innovative shoppers who like to try out the new and unfamiliar (Goldsmith & Flynn, 2004:85; Ha & Stoel, 2004; Phau & Lo, 2004). As a highly dynamic shopping medium the Internet is creating a new set of rules and expectations between online shoppers and fashion retailers (Siddiqui *et al.*, 2003). The advantages of the Internet as a retail channel also apply to the online apparel retailer. As with other products the advantages include not only access to a wider audience, cost savings, direct communication, and increased personalisation with the consumer, but also 24-hour availability seven days a week. Additional value-added features offered to the online shopper include in-depth product information, two-way communication, demonstration of products and services and up to date

online information (Breitenbach & van Doren, 1998; Rowley, 1996 & 2000; Siddiqui *et al.,* 2003; Wilde *et al.,* 2004). In 2001/ 2002 the Internet was already seen as an essential business requirement for apparel retailers, and more retailers started to develop a multi-channel strategy. Many traditional fashion retailers now also have an online presence, but it has been argued that many did so more out of peer pressure and customer expectations rather than as part of a strategic plan. Research showed that some retailers had a web presence solely to be noticed (Siddiqui *et al.,* 2003).

In South Africa, research that results in added value for the online consumer could help the retailer to enhance the online presence. By viewing South African apparel websites, it seems that a far smaller variety of products (as available in traditional shops) is presented and very little, if any, textile information is provided. Only one retailer supplies a link to care labels and care instructions (various South African apparel websites were consulted). There is therefore scope for improvement to make the online shopping experience satisfactory. An online textile quality assessment guide could be the first step to improve the local apparel retail websites, which could benefit both the apparel retailer and the consumer.

In developing an online presence, the web page of the apparel retailer should be regarded as the primary interface with customers and should, as in other cases, be representative and distinctive of the image that the e-tailer is seeking to portray. The site should also have desirable elements to encourage the purchase of apparel online. These include the same specifications as for general Internet sites: good Web page design, ease of navigation, and a search function; security guarantees and a clear return policy. Purchasing apparel online is different to purchasing apparel in a store and retailers should develop websites that pursue deeper relationships based on interests, personal identities, and affinities. It should also be noted that memory and the use of stored information is not essential in online purchasing as masses of online information as well as product comparisons, in terms of both properties and price, are available through the click of a button (Goldsmith & Goldsmith, 2002; Siddiqui *et al.,* 2003). Although e-

tailers that sell apparel online are starting to utilise the latest technology, much more can be done to give consumers more textile information, be it properties or clear images of the specific textile.

Different categories of online apparel shoppers should be catered for and furthermore the experience of online shopping should be engaging, interactive and memorable (Breitenbach & Van Doren, 1998; Siddiqui *et al.*, 2003). Some researchers (Siddiqui *et al.*, 2003) contend that consumers will only visit a website if it offers a viable alternative to offline services or if it adds value. The addition of 3-D features, which allow the apparel shopper for instance to "try on" clothes or to coordinate garments, has improved the online experience (Fiore & Jin, 2003; Lee, Fiore & Kim, 2003; Siddiqui *et al.,* 2003). Additional textile information supplied in a textile quality assessment guide could add more value and enhance the online experience even more. Irrespective of shopper typology, the primary reason for not purchasing apparel online is the inability to assess the sensory aspects of apparel (i.e. trying on, and feeling the textile) before purchasing (Gaal & Burns, 2001; Beck, 2002; Siddiqui *et al.,* 2003; Kim, Kim & Kumar, 2003; Watchravesringkan & Shim, 2003). LandsEnd (USA) has, for instance, introduced interactive models. This permits shoppers to see how a particular fashion product will look on a variety of body sizes, hair colours, skin tones, and body characteristics, while others add more product information, new ideas and a level of interactivity to their websites (Siddiqui *et al.,* 2003; Fiore & Jin, 2003). The emphasis has not yet been on interactivity features regarding textiles, but the same could be done to give a clearer picture of the textiles used in the garment – the fabric structure, drape, colour-ways, and patterns could be changed in the same way as body size, hair colour and skin tones. In addition, information on physical and performance properties could expand the online experience and assist the decision-making process. Easily accessible textile information (that could also be interactive) could therefore contribute to attract customers, increase sales and decrease returns.

It was found that online apparel consumers regard the replication of the traditional store format boring and that they were disappointed with the lack

of interactivity of the websites (Siddiqui *et al.,* 2003). It was also evident that consumers' expectations and experience far exceed the retailer's ability to understand and satisfy apparel consumer needs online. Within the fashion sector, this supports the view of Breitenbach and Van Doren (1998) that online consumers are in search of an online experience that is engaging and memorable. It also seems that retailers have failed to recognise how an online presence would allow consumers to obtain a different brand experience or the positioning of the fashion brand within the virtual environment (Siddiqui *et al.,* 2003). Some researchers also found that fashion retailers are inclined to use the Internet mainly as a platform for communication rather than as an electronic shop (Siddiqui *et al.,* 2003).

Research done on fashion websites indicated that retailers are not fully aware of consumer expectations and requirements. Of the websites reviewed, most of them included the common features such as employment services, store locators and store hours, but few provided a date of the last update. This puts doubt on the relevancy of the information provided, which could be a key feature in establishing an online presence (Breitenbach & Van Doren, 1998). All the websites these researchers investigated provided opportunity to capture customer information including an e-mail facility for two-way communication. Only a few offered the opportunity for customer comments, and in general the websites failed to maximize the opportunity of developing one-to-one personalized relationships with online customers. Common site features include product pictures and information, which varied in picture quality and length of text. A couple of websites utilised sound and video clips. Consumers commented on the lack of multi-media as surprising and disappointing. When purchasing fashion, consumers are looking for close-up zoom ability as well as viewing the product in 3-D – this supports the view that consumers are looking for a particular online experience that most websites still fail to offer (Siddique *et al.*, 2003). Consumers also want to be able to search product information (including textile features) as well as fashion ideas and a lack of providing this, impacted negatively on their web experience in terms of ease of navigation. Features expected from fashion websites include video clips, fashion shows, fashion information, and trends.

Consumers also expect access to ranges only available online and would like to be notified by retailers of the arrival of new stock in stores. According to researchers retailers not prepared to provide this, would miss the opportunity to integrate online and offline marketing activities (Breitenbach & Van Doren, 1998, Siddiqui *et al.*, 2003).

It is evident that more should be done to accommodate these aspects to ensure satisfactory online experiences, and more effort should be made to facilitate the assessment of tangible product features (Fiore & Jin, 2003).

Sasaki *et al.* (2004) found that consumers have concrete images of fibres and fabrics that have distinct features and those that are widely used in every day life, but have difficulty judging less familiar fibres and fabrics. They also found that assessment, when using visual sensation on a computer display was more difficult than actual handling, but if the images of fabrics have been established through experience, it is easier to assess the texture and hand from visual information. It therefore seems that if one could supply the consumer with more textile information (both text and visual) in an online guide, this would help with future decision-making.

2.3.2.2   The apparel consumer's assessment of quality and specific problems encountered by online apparel textile consumers

The assessment of garment quality is already problematic for the consumer in traditional retail setting, and even more so for the online consumer. According to Brown and Rice (1998), Jacobs (2003: 137) and Sasaki *et al.* (2004) consumers, when purchasing garments, first assess the textiles of the possible garments they consider purchasing, before assessing other features. As online consumers do not have the opportunity to touch, feel, and directly examine the garment, it becomes an even bigger issue.

The term, *quality*, can be used in many different ways, depending on the perspective from which it is viewed. When viewed from a consumer

perspective, quality assessment tends to focus on the extent to which apparel conforms to the serviceability that the individual consumer desires. This is in accordance with the ISO (the International Organisation for Standardisation) definition that defines quality as all the characteristics of an entity that have an effect on its ability to satisfy stated or implied needs (Abraham-Murali & Littrell, 1995b; Kadolph, 1998: 16; Marshall, Jackson, Stanley, Kefgen & Touchie-Specht, 2004: 334). In this study, quality therefore refers to the extent of serviceability desired by each consumer. This indicates that consumers have certain expectations concerning the quality of the items they purchase. Jacobs (2003: 142-148) and Lubbe (2003: 95-96) both found that some consumers use colour to evaluate the product, while others use texture, fit or care instructions for this purpose. They also handle the textile to determine durability (judged according to the weight of the fabric). All these aspects indicate that there is a definite need for more textile information so that the online apparel consumer can make decisions with more confidence.

The growing global marketplace and increase in online purchases, has made a wider variety of apparel products available, represented by a range of fibres, fabrics, surface decoration, construction methods, appearance standards and performance levels. These variables all combine to create products with varying levels of quality. This poses a challenge to consumers who have to make choices and determine which products will prove to be satisfactory. Furthermore, quality can be viewed from different angles and represent a different set of attributes for different people (Norum & Clark, 1989; Abraham-Murali & Littrell, 1995a; Kadolph, 1998:12-13; Hsu & Burns, 2002). In this study, quality will be viewed from the perspective of the consumer. From this view, quality is equated with meeting consumer expectations and is associated with the capacity of a product to satisfy consumer needs (Norton, 1991; Sieben, 1991; Yoon & Kijewski, 1997; Kadolph, 1998: 13-16; Yoon & Kim, 2000; Marshall *et al.*, 2004).

Researchers have found that different consumer groups vary in their expectations of quality and in their ability to distinguish various quality characteristics (Swinker & Hines, 2006). In general, the more educated and

sophistic the consumer, the more specific are the expectations of quality and the more precise the ability of the consumer to express those expectations. Kristensen, Martensen and Gronholdt (1999) relate expectations to satisfaction and define satisfaction as the evaluative response of the product performance and the consumption experience, which results from a comparison of that what was expected and that which was actually received.

Researchers such as Eckman, Damhorst and Kadolph (1990), Fiore and Damhorst (1992), Hines and O'Neal (1995), Hines and Swinker (2001), and May-Plumlee and Little (2001) all mention the importance of both *intrinsic* and *extrinsic* information cues when evaluating apparel quality. The same can be said of textiles, as these are also the cues used to assess textile quality. The personal involvement of consumers in the purchase of apparel (and apparel textiles) is directly related to the different dimensions of apparel (Haynes, Pipkin, Black and Cloud, 1994). It is evident that there are different dimensions of quality that consumers use to a greater or lesser extent when evaluating the quality of textile products (Stamper, Sharp & Donnel, 1991: 313-4; Swinker & Hines, 2006). Roach (1994), and Brown and Rice (1998: 38-41) refer to performance features and explain how they determine the standards a garment should meet to benefit the consumer.

The performance features of textiles include the aesthetic as well as functional performance features. *Aesthetic performance* refers to those aspects that create attractiveness and include design, materials used, and finishes enhancing the appearance. These features also include design elements and principles, classical or current fashion trends and the ability to fulfil the consumers' emotional needs (Roach, 1994; Brown & Rice, 1998:38; Kadolph, 1998:23, 27-8; McColl-Kennedy & Scneider, 2000; Zhang, Li, Gong & Wu, 2002). Aspects that affect aesthetics during maintenance and care of the product could also fall under this heading (Powers, 1984).

The importance that consumers place on aesthetic attributes (part of the intrinsic cues) when evaluating the quality of apparel textiles and garments during actual point of purchase situations, has also been indicated (Eckman

et al., 1990; Fiore & Damhorst, 1992; Hines & Swinker, 2001; Lubbe, 2003:23). Intrinsic characteristics were indicated as more important, in the assessing of quality than were extrinsic properties (Fiore & Damhorst, 1992; Dickson & Littrell, 1997; Park & Stoel, 2002).

Studies done by Kawabata, Niwa and Yamashita (1999), Inoue, Niwa, Yamashita, Minamide, Inoue, Ishokawa and Kawabata (2000) and Geršak (2002) emphasise the important role that the fabric plays when evaluating apparel products. According to Geršak (2002) and Marshall *et al.* (2004: 337), in an objective evaluation of garment appearance quality, it is necessary to start from fabric mechanics, as fabric is a basic construction element of an article of clothing. Every element, from the fibre to the final finishing detail, will influence the appearance of the garment. This means that visual appearance quality is expressed and seen as complete harmony of the physical properties of the fabric used, its drape and the quality of processing. Aesthetic properties can be further subdivided into formal, emotional, and cognitive qualities. The formal aspects (design elements and principles) were mentioned above; the emotional and cognitive qualities are those aspects that refer to the satisfying of the consumer's social-psychological needs (to impress or be accepted). Therefore, formal qualities also imply cognitive and emotional responses (Rice & Brown, 1998: 38-39; Fiore, 2002). Haynes *et al.* (1994) also refer to an experience dimension that is related to activities associated with evaluating apparel products. This usually occurs at the point of purchase in traditional retail outlets (Brown & Rice, 1998:43), which could indicate a problem for online consumers who cannot touch and feel the merchandise.

Functional performance refers to features that enhance a product's utility, such as durability (including colour integrity, shape retention and wear resistance), comfort (which could include a soft hand, drape ability), and care consideration (Brown & Rice, 1998:39). The physical properties describe a textile product - the fibre content, yarn structure, and the construction of the fabric, and these in turn determine the performance in use. According to Collier and Epps (1999:3), textile properties are affected by a number of

structural features that help to explain, and often predict, fabric performance. Performance properties are usually used to indicate the level of need satisfaction. Here both aesthetic and functional aspects are included, the former referring to the attractiveness of the product and the latter to utility aspects.

The following diagram was therefore used to describe the concept of apparel quality in this study. [The extrinsic attributes are only included to indicate that they are also aspects that influence the perceived quality of products]. These dimensions of apparel product quality all play an important part in the decision-making process and buying behaviour of consumers. Certain aesthetic aspects, namely the sensory aspects of touch (feel) and sight (or the lack of these aspects in the online situation), are also included. Comfort, which is associated with the hand (feel) of a fabric, is also included.

Quality of apparel products

Intrinsic

Extrinsic attributes:
-Price
-Brand
-Image
-Hangtag / label
-Packaging

Physical features

Performance features

Formal aspects:
- Design:
  - elements
  - principles
  - fashion trends
- Materials:
  - fibres
  - yarns
  - fabrics
  - finishes
- Construction
- Finishing

Aesthetic aspects:
Sensory: - Feel
            - See
            - Hear
            - Smell
            - Taste

Emotional: - Pleasure
            - Arousal
            - Dominance

Cognitive: - Reality
            - Fantasy
            - Entertainment

Functional aspects:
- Utility attributes:
  - Durability
  - Comfort (including fit)
  - Maintenance
  - End-use serviceability

FIGURE 2: THE DIMENSIONS OF TEXTILE PRODUCT QUALITY

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The online consumer cannot touch, handle, and try on garments to help with the assessment of quality. As quality is often judged by touching, feeling, manipulating and trying on the garment, the Internet consumer is at a distinct disadvantage. The consumer often only has a photograph to rely on when making a quality judgement. These photographs vary – some show the garment on a model, while other websites only show pictures of the garment. As indicated previously little or no information on textile properties is provided with the images, but some websites do include care instructions (Various South African apparel retail sites accessed during March 2005).

There is clearly room for improvement and the possibility for providing more information to facilitate the assessment of the quality of products on offer. Interactivity could assist the online consumer. The availability of information and images in the form of an online guide will be of value to assist online apparel consumers in their decision-making.

To ensure satisfied customers, manufacturers and retailers should understand how consumers evaluate quality both at point of purchase and in use. At the point of purchase the determinant factors for purchase are usually the aesthetic features of the garment, which are judged by looking at and feeling the product. The consumer is emotionally and psychologically affected by the attractiveness of a garment. The perceived aesthetic quality is what initially attracts or repels the consumer at the point of purchase – the focus is often on the textile and product aspects like colour, hand, texture, weight, as well as style and fit. These aesthetic judgements are usually very subjective and influenced by personal taste and preference, current fashions and garment fit (Zeithaml, 1988, Eckman, 1997, Brown & Rice, 1998:44, Kadolph, 1998:23; Jansson, Bointen & Marlow, 2002).

Consumers are seldom able to judge the functional performance at the point of purchase as they rarely possess complete information about the product. Due to prior experience some consumers could try to predict the functional performance based on the design, materials or construction of the garment.

Most consumers, however, lack the knowledge of materials and processes used to make the product. This often leads to incorrect perceptions regarding product quality. They purchase garments assuming that they will perform adequately in use – this could be the key factor in post-purchase satisfaction or dissatisfaction (Yoon & Kijewski, 1997; Brown & Rice, 1998:44, Kadolph, 1998:23). Functional performance becomes important in use. Consumers now re-evaluate the garment and compare it to their expectations at the point of purchase – problems arise when expectations are not met. Although the aesthetic qualities still remain important, other aspects may increase in importance, for instance durability, comfort or care procedure (Brown & Rice, 1998:45, Kadolph, 1998:23).

Consumers use different methods, different courses of action to bridge this knowledge gap to enable them to gauge the quality of the textile when shopping in a traditional store environment. They would for instance scrunch the fabric to test crease resistance, hold it against the light to determine translucence, examine the surface for fuzziness, which could result in pilling during use. In a traditional setting consumers often react to symbolic and cognitive aspects at the point of purchase, which usually result from the formal qualities of the product. The formal qualities of apparel therefore influence both the functional performance and aesthetic properties and play a determining role in quality decisions (Fiore & Kimle, 1997:19).

When purchasing online consumers rely more on symbolic and cognitive processing, but the fact that it is difficult to judge tactile aspects causes problems for these consumers. The online consumer also relies on aesthetics and emotional responses when making purchase decisions. They have to rely heavily on visual sensations when evaluating a product (Sasaki *et al., 2004*). Lack of complete sensory information may constrain purchase decisions. Image interactivity, photo-realistic rendering, close up images, attractively composed photographs and good page layout can be used to provide the desired sensory information (Fiore & Jin, 2003; Kerfoot, Davies & Ward, 2003).

In a recent study on the social and physical interactions in textile evaluations (Kaiser, Pan, Chandler & Hethorn, 2005) a sensory science framework was developed to understand the relationship between physical properties and human perceptions. The findings show that there were discrepancies between website perceptions (expectations) and actual perceptions (look and feel). One of the reasons for the discrepancies was, for instance, the website's ability to communicate softness of fabric visually. This study stresses the importance of more accurate written, visual, and graphic descriptions that relate to both consumer perceptions and the physical properties of the fabric. This would stimulate higher order cognitive processing resulting in more positive response outcomes (Griffith, 2005; Kaiser *et al.,* 2005).

2.4   THE BENEFIT OF INTERACTIVE AIDS AND IMAGES

One of the unique characteristics of online shopping environments is that they allow for the implementation of highly interactive features. Interactivity is a multi-dimensional construct, which includes reciprocity in the exchange of information, availability of information on demand, response contingency, and customisation of content, and real-time feedback (Alba, *et al.*, 1997; Ariely, 2000; Häubl & Trifts, 2000). In this setting, interactivity refers to the ability to interactively access information in an online database.

One characteristic feature of electronic shopping environments is the lack of physical constraints with respect to product display. From a consumer's point of view, it is highly desirable to have access to a large number of products (Häubl & Trifts, 2000; Fiore & Jin, 2003). On the other hand, however, consumers have limited cognitive resources and may be unable to process the potentially vast amounts of information about all these alternatives. Research done by Payne during the 1980's (Häubl & Trifts, 2000) determined that humans adapt their decision-making strategies to specific situations and environments. This early research on consumer behaviour indicated that consumers could be described as "cognitive misers" who strive to reduce the

amount of cognitive effort associated with decision-making (Häubl & Trifts, 2000). It was also suggested that individuals are typically willing to settle for imperfect accuracy of their decisions in return for a reduction in effort (Bettman, Luce & Payne, 1998). A possible solution to this dilemma is to provide consumers with interactive decision aids designed to help them to effectively manage and capitalise on the large amounts of information that may be available in electronic shopping environments (Häubl & Trifts, 2000).

According to Jacobs (2003:175), when confronted with a lot of new and confusing stimuli, most consumers revert to their established scripts to guide decisions. Some consumers, who have less structured scripts for purchasing apparel, would adapt the actions and procedures they usually follow to accommodate newly accessed information from the Internet. Consumers who often use the Internet for information searches are more inclined to look for and utilise new or added information on a web page (Jacobs, 2003:177). Additional textile information that can be easily accessed could help to elaborate their scripts and eventually simplify the online purchasing process. One should, however take precautions not to overload the consumer's cognitive capacity, as this could lead to frustration and a negative response (Xia & Sudharshan, 2002).

The implementation of sophisticated tools to assist shoppers in their purchase decisions is desirable from a consumer perspective. One way of achieving this is by customising the electronic shopping environment to satisfy individual preferences. The availability of these interactive decision aids may lead to the transformation of the way shoppers search for product information and make purchase decisions. The way they search for product information and make purchase decisions, is a function of the particular interactive tool available in an online shopping environment (Ansari, Essegaier, Kohli, 2000; Senecal & Nantel, 2004).

A well-known phenomenon regarding decision-making in complex environments is that individuals are often unable to evaluate all alternatives in great depth before making a choice. Humans tend to use two-stage

processes to reach a decision and the depth of information processing varies by stage. During the first stage consumers tend to screen a large set of available alternatives (products) and identify a subset of most promising alternatives. Following this, the latter is evaluated in more depth; comparisons are made on important attributes, which lead to the purchase decision (Häubl & Trifts, 2000).

Interactive aids that provide support to consumers in the following two respects would be valuable: (1) the initial screening of available products to determine which are worth further scrutiny, and (2) the in-depth comparison of selected products before making the actual purchase decision (Häubl & Trifts, 2000). Häubl and Trifts (2000) suggest the use of these two types of interactive tools to help consumers perform the key decision-making tasks. The first interactive tool that they suggest is a so-called recommendation agent (RA) to help consumers to more effectively screen the set (potentially very large) of alternatives available in an online store. Based on information provided by the shopper regarding own preference, an RA "recommends" a set of products likely to be attractive to the individual – it generates a personalised list of recommended alternatives. This list can use specific attributes, such as brand name, fabric type, and colour to identify the relative alternatives for a specific shopper. To generate this personalised list, the consumer indicates attribute importance weights and minimum acceptable attribute levels, which the computer uses to compute the order of the RA's output. The consumer can also indicate a quota cut-off list that limits the number of products included in the list (Ansari *et al.,* 2000; Häubl & Trifts, 2000; Vijayasarathy & Jones, 2001; Senecal & Nantel, 2004). A well-structured textile guide with relevant information that the consumer can use to facilitate her purchasing decision could also be viewed as a decision-aid and, although it is not a recommendation aid as described by Häubl and Trifts (2000), it could supply the consumer with enough information to serve the same purpose.

The second interactive decision aid that Häubl and Trifts (2000) propose is a comparison matrix (CM), which is a tool that assists consumers in making in-

depth comparisons among those alternatives that appear most promising based on initial screening. The CM allows consumers to organise the attribute information of a variety of available products. This can be implemented in an interactive display format where the product information is presented in an 'alternatives (rows) x attributes (columns)' matrix. This enables shoppers to compare products more effectively and accurately. This display format is interactive as the shopper can have all products in the CM sorted by any attribute. The use of this type of aid should shift the emphasis from memory-based to stimulus-based decisions – the retaining of specific attribute information in memory therefore becomes less important. The use of these aids also allows the shopper to make better decisions with substantially less effort. They also seem to transform the way in which consumers search for product information and make purchase decisions (Häubl & Trifts, 2000). These tools allow shoppers to more easily detect products that are overpriced or otherwise dominated by competing alternatives; this in turn increases market efficiency and should also lead to more satisfied online customers. When designing an interactive tool, it is important to include all relevant attributes, not overlook attractive alternatives, and not to include information biased in favour of subsets of products (for instance certain brands). They should also be multi-retailer aids that allow for cross merchant or unrestricted cross-store comparisons (Häubl & Trifts, 2000).

Another interactive tool specifically useful for the online apparel shopper is the use of a 3-D virtual experience (Fiore & Jin, 2003). Although this still does not completely solve the problem of lack of touch, feel and "try-on" abilities on the Internet, a 3-D virtual experience can be a great help to give the consumer a better impression of the product. Consumers are then better able to get a more accurate image of for instance fabric drape, texture, and garment fit (Fiore & Jin, 2003; Sasaki *et al.,* 2004). Fiore and Jin (2003) suggest that image interactivity may not only contribute to approach responses toward the online store but may entice consumers to visit the bricks-and-mortar store to acquire the missing information. Li, Daugherty and Biocca (2003) also investigated 3-D product visualisation for a virtual experience and found that the Internet has the ability to serve as a powerful

medium for this experience, as consumers are able to interact with products in 3-D multi-media environments for a virtual experience, and at the same time enhance their learning experience. Accurate descriptions of textiles accompanied by visual material would also contribute to enhance the consumer's shopping and learning experience.

2.5   IMPLICATIONS FOR THIS STUDY

From the above discussion, it is apparent that research findings discussed in the review of literature also have a bearing on the development of an interactive aid to assist the apparel consumer in the decision-making phase of the purchase and could help to improve the consumer's product knowledge and ensure post-purchase satisfaction when wearing and caring for the product.

The schematic representation on the next page shows how the correct information can be used to develop an online consumer guide and how this guide can guide consumer decisions concerning the textiles used for the garments they purchase.

From the schematic representation it is clear that:

- Formal physical aspects of textiles have an effect on the performance features of textiles (both sensory and utility) and are used as cues to assess the quality of textiles

- The sensory aesthetic features of touch (hand/ tactile texture) and visual texture are two aspects that consumers use to judge textile comfort

- The (online) consumer uses both formal physical and performance features to assess the quality of the fabrics used for garments

- For an online textile quality assessment guide to be successful both formal physical and performance aspects used as quality cues, have to be included and interactive possibilities should be explored.

Intrinsic quality attributes of textiles

Formal physical features of textiles:
- fibres
- yarns
- structures
- finishes

Performance features of textiles:

Sensory aesthetic features:
• Touch (tactile texture)
• Visible texture

Functional utility features:
• **Durability**
• **Comfort**
• **Maintenance**
• **Serviceability**

The online consumer:
• Information search
• Evaluation of alternatives
• Purchase decision
+
Perception of physical and performance features

Online textile quality assessment guide:
• Considering consumers perception of physical and performance features
• Interactivity possibilities

FIGURE 3: THE INTRINSIC QUALITY ATTRIBUTES THAT PLAY A ROLE IN CONSUMER DECISION-MAKING AND THE DEVELOPMENT OF THE ONLINE TEXTILE GUIDE

A general overview of the research design and the methodology used for the study, that includes the sub-objectives and specific goals, as well as the research strategy, the research style and operationalisation to meet these objectives, are discussed in the first part of Chapter 3. The rest of Chapter 3 is devoted to a discussion of the choice of the research sample, data collecting techniques and procedures, and data analysis for the first phase of the study. The quality of the data is discussed and the data presentation for this phase of the study also receives attention.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY FOR THE FIRST PHASE OF THE STUDY

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3.1   INTRODUCTION

The purpose of research is to explore, describe or explain phenomena that generate valid results (Neuman, 2000: 21). To solve the research problem the researcher uses a plan or structured framework (the research design) to guide the research. Research methodology refers to the methods, techniques and procedures used to implement the research design (Babbie & Mouton, 2001: xxvi; 74-75). A well-planned research design enables the researcher to anticipate research decisions, which in turn minimise research mistakes and maximise the validity of the results (Mouton, 1996: 107)

To ensure valid results, the methods, techniques and procedures must be carefully chosen. The selection of these "tools" always depends on the research problem, the research objectives, the underlying theory and the expectations of the researcher (Babbie & Mouton, 2001: xxv).

From the review of literature it is evident that:

- The Internet as new shopping environment has exciting possibilities for both modern-day retailers and consumers
- It is, however, evident that the Internet consumer of apparel probably experiences specific problems regarding the quality assessment of textiles
- South African Internet apparel consumers could benefit from basic and more specific textile information to facilitate their decision-making
- By developing an online quality assessment guide for textiles, consumers could be empowered to make more educated decisions,

this in turn could increase satisfaction regarding the product. This could lead to repeat visits (which would also be beneficial to the retailer)

- The modern technology of interactivity can enhance the shopping experience and lead to better decision-making, enjoyment and satisfaction

- Consumers possibly use physical features of textiles (fibres, fabric and finishes) as cues when evaluating the quality of apparel for formal and casual daywear.

- Consumers possibly use performance features of textiles (durability, comfort, maintenance and end-use serviceability) as cues when evaluating the quality of apparel for formal and casual daywear, most probably only when they start wearing the garment.

- Consumers possibly use some aspects relating to aesthetics (i.e. comfort – the hand of the fabric and fit) as cues to assess quality

All these aspects had implications for the choice of research strategy, data-collecting methods and other techniques used in the study.

In this chapter the plan and approach for addressing the research questions for maximum valid results, is discussed.

The following aspects will be explained in this chapter:

- The chosen conceptual framework and research questions that are stated as sub-objectives and specific aims for this study

- The research strategy and research style that will be used in the study

- The different phases of the study

- The samples chosen for the first phase of the study

- The choice, description and application of data-collecting methods for phases one

- Data analysis of the first phase of the study

- The quality of the data

3.2   THE CHOSEN CONCEPTUAL FRAMEWORK, RESEARCH PHASES AND OBJECTIVES
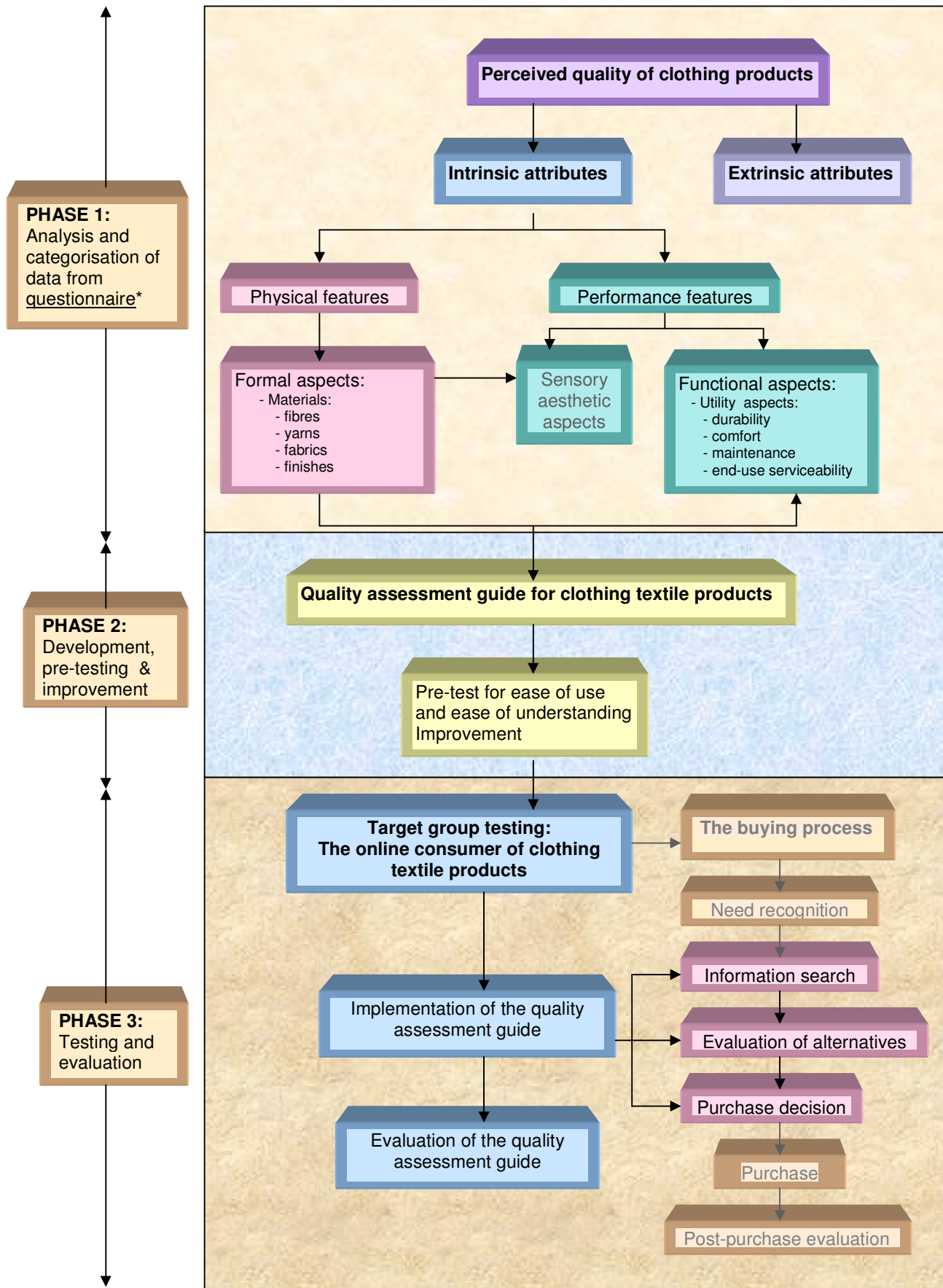
FIGURE 4: CONCEPTUAL FRAMEWORK AND RESEARCH PHASES FOR THIS STUDY

From the combined schematic conceptual framework and research phases (Fig.4, previous page), the following reasoning directs the sub-objectives and specific aims stated for the study:

> With regard to the problem statement of the study, "*Which textile related attributes should be incorporated in a quality assessment guide to facilitate the online decision-making process of adult career women when purchasing outer garments for formal and casual daywear?*" the following objectives and sub-objectives were formulated:

3.2.1 Objective 1: To obtain specific information about intrinsic textile related aspects that career women use in their decision-making when assessing the quality of apparel products

- **Sub-objective 1:**   Do adult career women use formal, physical features of textiles (i.e. fibre, yarn, fabric structure and finish) in their perception and assessment of the quality of apparel textiles?

- **Sub-objective 1.1:**   Do adult career women relate the formal, physical features of textiles to the functional performance aspects when assessing quality during the decision making process?
  - **Sub-objective 1.1.1:**   Do career women relate the formal features of textiles to the functional performance aspect of durability?
  - **Sub-objective 1.1.2:**   Do career women relate the formal features of textiles to the functional performance aspect of comfort (including sensual appeal)?
  - **Sub-objective 1.1.3:**   Do career women relate the formal features of textiles to the functional performance aspect of maintenance?
  - **Sub-objective 1.1.4:**   Do career women relate the formal features of textiles to the functional performance aspect of end-use serviceability?

- **Sub-objective 1.2:**   How important is label information in apparel purchase decision-making?

- **Sub-objective 1.2.1:**   Do career women use label information to assist them when making purchase decisions?
- **Sub-objective 1.2.2:**   Do career women use a specific type of label information to assist them in their decision-making?

3.2.2 Objective 2: To develop a guide for assessing quality using the data obtained in the first phase of the study.

3.2.3 Objective 3: To test the guide to determine if it facilitates decisions concerning the quality of fabrics when purchasing apparel products online.

3.3   RESEARCH STRATEGY AND RESEARCH STYLE CHOSEN FOR THIS STUDY

This research strategy is descriptive as an attempt is made to describe and understand behaviour, tendencies, and situations. According to Mouton (1996:101) the research objective gives a broad indication of what the researcher wishes to achieve with the research. For practical purposes, the research was divided into three phases. In the first part of the study, the aim was to determine which textile related cues career women use as quality indicators when purchasing apparel for formal and for casual daywear. The goal was to use these cues in the second phase of the study when developing the online quality assessment guide for textiles.

The study is also exploratory in nature. According to Babbie and Mouton (2001:79), exploratory research is undertaken when the researcher wants to obtain insight in a new area of interest or when something relatively new is being studied. This study is exploratory as it aims to obtain insight into a relatively new area of study, namely the online consumer of textile products.

The last phase of the study can be seen as applied evaluation research as

the testing of the effectiveness of the quality assessment guide is the ultimate goal of the research.

A quantitative research style was used for this study. Quantitative research primarily follows a deductive route. The research starts with an abstract idea, followed by a measurement procedure, and ends with empirical data (precise numerical information) that represent the abstract ideas. The measurement techniques are precise and link concepts and data, define what the data will be and are used as directions for collecting the data (Neuman, 2000: 158).

The study can be classified as an empirical study. In the first phase data was gathered by using a structured questionnaire. In the second phase this data was used to develop an online textile quality assessment guide together with a mock website for testing the guide. In the third phase the respondents used the mock website linked to the online guide as well as existing South African apparel retail websites (without the guide). Once again a structured questionnaire was used to gather data on the usability and success of the online guide.

The study is also cross-sectional, which implies that it was undertaken at a specific point in time and not over a long period (Neuman, 2000: 30).

3.4   CHOICE OF THE RESEARCH SAMPLE FOR PHASE ONE

3.4.1 The units of analysis for the first phase of the study

The units of analysis for this study were adult career women between the age of 25 and 40 who work in Pretoria, the administrative capital city of South Africa.

The target population for the first phase of the study was adult career women (in the middle to high income bracket) who work in Pretoria and who might purchase outer garments, intended for office and casual wear, online. It was

decided to target career women between the ages of 25 and 40, as more than half of South Africa's web users fall in this age group (Webchek: Press Room, 2006). The study included career women working at the University of Pretoria, teachers at various schools in Pretoria and women working for various companies in Pretoria.

For the purpose of the study, it was decided to use only textile products used for apparel, specifically for formal and casual daywear of adult career women between the ages of 25 and 40. According to Louw (1990:475-6), early adulthood refers to people between the ages of 25 and 40, and is the stage in life where people are physically mature, independent, responsible, and established in a profession. Career women are probably the women who would use the Internet as a convenient time saving method of purchasing apparel. Furthermore female Internet users between the ages of 25 and 34 have bought more online than any other age groups (Webcheck: Archive – Online shopping trends, 2006). As this was determined by a survey done in 2000, it was decided to include career women up to the age of 40, to include the possible "older" group of female Internet users of 2000. Both formal daywear and casual daywear were chosen as different aspects govern the choice of these two types of clothing (Kaiser, 1998:354; Lubbe, 2003: 141; Marshall *et al.*, 2004).

3.4.2 Sample selection for the first phase of the study

For this part of the study, the sample was not restricted to online consumers. Here the object was to determine which cues, related to textiles, are used by career women, between the ages of 25 and 40, to assess the quality of apparel offered in retail stores, in catalogues, or on the Internet. The number of respondents recommended by the statistician was a minimum of between 100 and 120. A further recommendation was that, if possible, roughly 60 respondents should be academics and the other 60 from other large, non-academic companies/ firms. A total number of 116 questionnaires were returned; 36 from staff-members of the University of Pretoria and 80 from career women working as schoolteachers or in the business sector.

For the respondents to be included in the first part of the study, they had to comply with the following criteria:

Criterion	Justification
Respondents must be female	Female buyers form a large part of the spending power in the apparel market.
Between the ages of 25 and 40	This group already has established preferences and an idea of what they see as quality in apparel
Be employed in a full time or part time career	Involvement in activities that save time is greater for a career woman than woman who are not employed
Have a post-school education (certificate, diploma or degree)	"Distance" buyers are often seen as risk takers associated with a higher level of education (Jasper & Ouellete, 1994:25).

A non-probability sampling technique was used. Purposive or judgemental sampling was recommended, as members of a specialised population were used in this study (Neuman, 2000:198). Due to the low response from University of Pretoria employees, the snowball sampling technique was used to locate career women employed elsewhere. Because this method of sampling could result in questionable representativeness, it is used primarily for exploratory studies (Babbie & Mouton, 2001: 167).

3.5 THE CHOICE, DESCRIPTION AND APPLICATION OF THE DATA COLLECTING TECHNIQUE

For this study a structured questionnaire was used for the first phase of the study. This was judged an appropriate method, as the sub-objectives and specific aims could be addressed in this way, and as other researchers have successfully used structured questionnaires to measure consumer perceptions of apparel quality and decision-making in fashion retailing (Abraham-Murali & Littrell, 1995b; Birtwistle *et al.*, 1998).

3.5.1 Structured questionnaire (first phase of the study)

In the first phase of the study a structured questionnaire was used to gather

data (Addendum 1). The questionnaire was compiled after studying literature on apparel quality; the way consumers perceive quality when purchasing garments and factors that affect decision-making. Dimensions that influence quality of textile products were identified as well as aspects that influence consumers' expectations concerning apparel quality and satisfaction with the purchased garment.

Second, third and fourth year students in the Clothing Retail Management programme at the University of Pretoria were also asked to identify their perception of quality. They were asked how they judged durability, comfort, ease-of-care and end-use serviceability when purchasing garments for formal and casual daywear. This information was also used in the compilation of the questionnaire. It was also decided to include a section where the respondent had the opportunity to handle and see fabric samples before making quality judgements. Before deciding which fabrics to include, a variety of stores were visited to determine which fabrics were used for ready-to-wear garments that represented both formal daywear and casual wear (Addendum 1). Fabrics exclusively suitable for only one season were not included. The next step was to visit fabric stores to determine if similar fabrics were available for the home sewer. The sales ladies were also asked to identify which were the more popular fabrics for jackets, skirts/pants and tops. Once again fabrics exclusively suitable for one season were not considered. It was also decided to use fabrics in neutral colours. This proved to be more difficult than anticipated – as most fabric types were available in shades of blue or white and off-white, all fabrics included in the questionnaire were either in shades of blue or white. Woven fabrics (which according to the sales ladies were more popular than knits at the time of the survey) were chosen from two weight classes – sturdier, medium weight fabrics (a balanced plain weave, a similar weight twill weave and a fabric made from yarns of uneven sizes) as well as light weight fabrics (sheer balanced plain weave, and two slightly heavier plain weaves both with crinkle finishes, the one more pronounced than the other). The third group of fabrics were all knits and included a medium weight double knit, a lightweight single jersey knit and a medium weight lacy knit.

After compiling the questionnaire, it was judged by colleagues (peer evaluation), the study-leader and two statisticians. To determine the clarity, and whether the intended meaning was clear, twenty adult female consumers tested it. Their suggestions and comments were used to adapt and revise the questionnaire.

The questionnaire was developed to question respondents on a variety of aspects related to the stated objectives, namely the cues they use to determine garment durability, comfort and ease of maintenance, the use of label information, and their perception of end-use serviceability of fabrics for formal and casual daywear. They were also asked whether they do or are willing to do "distance" shopping (catalogue, Internet), and what textile information they thought would be helpful when shopping online. The questionnaire was divided into different sections, using different indicators for the assessment of quality.

TABLE I: THE STUCTURE OF THE QUESTIONNAIRE (First phase)

SECTION	ASPECTS MEASURED	QUESTIONS NUMBER
A (16 questions)	Factors used as quality cues	
	Intrinsic and extrinsic factors	Question A 1
	Utility factors used as quality cues (formal wear)	Question A 2a
	Utility factors used as quality cues (casual wear)	Question A 2b
	Use of information on labels	Questions A 3, 3.1, 3.2, 3.3, 3.4 & 3.5
	Durability features	Questions A 4.1 – 4.2
	Comfort features	Questions A 5.1 – 5.2
	Easy-care features	Questions A 6.1 – 6.2
	Other aspects (open-end)	Question A 7
B (8 questions)	Use of distance shopping (catalogues) and willingness to purchase garments online	Q B 1 – B 7
	Type of information helpful to make decisions when doing distance shopping	Q B 8
C (4 questions)	Demographics	Q C 1-4
D (17 questions)	End-use serviceability: Durability assessment (medium weight fabrics: light weight fabrics and knits)	Q D 1.1 – D 1.4
	Comfort assessment (medium weight fabrics: light weight fabrics and knits)	Q D 2.1 – 2.4
	Easy-care assessment (medium weight fabrics: light weight fabrics and knits)	Q D 3.1 – 3.4
	Preferred fabric (jacket, skirt/pants; blouse, shirt/ top) for formal daywear	Q D 4.1 – 4.2
	Preferred fabric (skirt/pants; blouse, shirt/ top; jacket) for casual wear	Q D 4.3 – 4.5

The questionnaire contained 45 questions, which were grouped together with clear instructions for easy completion. Most of the questions were closed questions that were coded in advance. In most cases Likert-type scales were used where the respondents had to rank the options along an ordinal scale; some answers had to be ranked in order of preference.

The questionnaire was divided into four sections; sections A, B C and D (see Addendum 1). In section A the cues used by consumers to judge quality, were identified, as well as the importance of the functional aspects of performance when making quality judgements, and consumers' use of textile label information. Most of the questions were closed (structured or fixed response) questions, but open-ended (free-response) questions were also included to ensure that all aspects considered by consumers when assessing quality, were covered. As the objective was to determine which aspects are used to assess quality, the closed questions were more appropriate. Closed questions were predominant in the first phase of the study because they are easier and quicker for the respondents to answer, it is easier to compare the answers of different respondents, the answers are easier to code and analyse statistically, the response choices can clarify the meaning of the question for the respondents, and replication is easier (Neuman, 2000: 260-261).

In Section B the respondents were asked to indicate whether they had already purchased garments from a catalogue or the Internet, and if not, if they intended doing so in future, and also if they used different criteria to assess quality of garments offered in a catalogue compared to garments bought in stores (Yes/No questions). They were then asked to indicate what they did differently and what problems they had encountered with distance shopping (open-ended). They were also asked to indicate what type of textile information would be helpful for making purchase decisions (Likert-type scale).

Section C was used to gather demographic information (age and qualification level). Two other questions were also included in this part of the

questionnaire. The respondents were asked what price they were willing to pay for jackets; skirts/pants and tops for both formal and casual daywear. Although the extrinsic aspects such as price did not form part of the study, this information was used to determine if price played a role in consumers' quality assessment.

In Section D the respondents' idea of end-use serviceability was tested. This information was used to verify their knowledge of textiles and their ability to apply this knowledge when confronted with actual textile samples. This also helped to give an indication of what to include in a textile assessment guide.

3.5.2 Data collecting procedures for phase one

Before finalising the questionnaire for phase one of the study the questionnaire was evaluated by a research consultant, a statistician, peers and the study leader. Both content and measures used to obtain data were evaluated. The research consultant and statistician helped to determine if the questions would supply the required information. They made suggestions regarding the type of questions, number of choices for the Likert-type scales and other technical aspects as well as the layout of the questionnaire and coding column. These and other suggestions were attended to and the questionnaire adapted accordingly, in both English and Afrikaans.

As all the related dimensions and indicators of quality were obtained through a thorough literature review and the questionnaire evaluated by colleagues with textile knowledge, it was expected to produce reliable results. The questionnaire was also pre-tested as an added measure for reliability. According to the statistician, the suggested sample size (between 100 and 120 respondents) would also contribute to reliability.

After pre-testing the questionnaire for clarity and to determine how long it would take to complete, a few adjustments were made, and the questionnaires were printed and distributed. Those sent to female staff

members of the University of Pretoria were distributed by internal mail. One hundred questionnaires were distributed, and although the initial response was reasonable, very few questionnaires were returned (only 36 %). Various contact people (trained fieldworkers) were responsible for the distribution of questionnaires to respondents not employed by the University of Pretoria. Each contact person first made sure that the respondents fit the profile, distributed the questionnaires by hand and collected them again.
This method resulted in a far higher response rate. One hundred and four questionnaires were distributed in this way and 80 (77 %) were returned. The total amount of questionnaires distributed was 204 of which 116 (57%) were returned. All the questionnaires could be used.

The researcher coded all the responses by hand and the data was then electronically entered and captured at the University of Pretoria.

3.6 DATA ANALYSIS

3.6.1 Coding and capturing the data obtained in phase one

The closed questions were pre-coded and the individual questionnaires were coded accordingly. The open-ended questions were coded after all questionnaires had been returned so that all responses could be written down and placed in categories as determined by the conceptual frame work. New categories were created for responses that could not fit in the existing categories.
As mentioned previously, all questionnaires were usable; some had missing data, but in general most respondents completed the questionnaire carefully.

The information was captured by the data-capturing division of the University of Pretoria, and compared with every completed questionnaire to ensure that the information of each questionnaire was correctly captured; the mistakes were indicated and the research consultant had them corrected. The importance of meticulous checking, labelling and bookkeeping is emphasised

by Neuman (2000: 251 & 314) – sloppiness at this stage could cause the researcher to lose valuable data and effort.

The next step was to have the data statistically analysed. Both the coordinator of the statistical processes and the statistician suggested which statistical methods should be used. A computer program was used to do the statistical analysis. Descriptive statistics were used to describe basic patterns in the data as well as the relationship among variables. According to Babbie and Mouton (2001: 641) descriptive statistics are used to summarise and organise a set of sample observations so that they are easier to comprehend.

Frequency distributions were determined to see how many respondents use the different cues for assessing quality. The mean scores of all the responses to the different cues were calculated to determine which cues are most often used for assessing quality. Two-way frequencies were used to determine to what extent the formal fabric properties are used to assess the quality in terms of durability, comfort, maintenance, and end-use applicability. The same method was used to determine if age and qualification (possibly experience) have an influence on the use of certain quality cues.

3.6.2 Operationalisation

The central concepts were expressed in the research problem and the framework for the research process. Theoretical definitions for the concepts concerning quality as well as the applicable concepts related to the buying process were given in Chapter 2. Theoretical definitions and descriptions of relevant concepts facilitate the development of measures or activities that allow the researcher to observe the constructs empirically (Mouton, 1996: 125; Neuman, 2000; 160; Babbie & Mouton, 2001: 128).

To be able to determine which aspects and textile properties to include in a quality assessment guide for textiles, it was important to determine how many respondents use specific aspects related to quality when making a purchase decision. This implies the testing of a statistical hypothesis, where the null

hypothesis (H_o) is that 50 % or fewer respondents 'always' or 'sometimes' choose a specific option or always see a specific option as 'very important' or 'important' when making a purchase decision. The alternative hypothesis (H_a) is that more than 50 % (the majority) of the respondents 'always' or 'sometimes' choose a specific option or see a specific option as 'very important' or 'important' when making a purchase decision. Acceptance of the alternative hypothesis would indicate that the majority of respondents use the specific aspects when making quality judgements, and would therefore look for these aspects in a quality assessment guide to help them with their decision-making.

In this study the hypotheses were tested on a 5 % level of significance (π = 0.5) and Z-values were determined (the normal distribution). The critical Z-value was determined to be 1.645; if the Z-value exceeded 1.645 (was > 1.645) the null hypothesis (H_0) was rejected.
The following formula was used to determine the Z-value of each variable where applicable:

$$Z = \frac{P - \pi_0}{\sqrt{\dfrac{\pi_0(1 - \pi_0)}{n}}}$$

where $P = \dfrac{X}{n}$

and X = the number of respondents who chose 'always' and 'sometimes' or 'very important' and 'important'

n = total number of respondents (in most cases 116 respondents)

(where information on respondents' use of labels was tested, only respondents who always or usually consult labels were asked to complete a set of questions; in which case n = 90 respondents).

On a 5 % level of significance $X \geq 66.86$, which means that if 67 or more respondents (n=116) 'always' or 'sometimes' chose an option or viewed the option as 'very important' or 'important', the null hypothesis (H_0: π_0 = 0.5) was rejected. This also indicated that the majority of the respondents used these

aspects as indicators of quality, and would therefore look for them in a quality assessment guide to help with decision-making.

To determine which indicators respondents used to assess the performance features of durability, comfort and ease-of-care, the null hypothesis would be rejected if more than 67 respondents 'always' or 'sometimes' chose a specific indicator to assess these performance features. Here the rejection of the null hypothesis would indicate that the majority of the respondents do relate the physical aspects of textiles to the performance features of durability, comfort and ease-of-care.

The use of label information was also calculated according to these criteria. [In this case $X \geq 52.80$, which means that if 53 (n=90) or more respondents always chose an option or viewed the option as 'very important' or 'important', the null hypothesis ($H_0: \pi_0 = 0.5$) was rejected].

To determine the reasons for the most preferred fabrics for specific end-uses, two-way frequencies were used and the results were expressed as averages (%).

Very few respondents answered the open-ended questions – here an indication of how many respondents chose certain options is given (as well as the % of responses). (Because of the poor response, only aspects relating to the stated objectives were included in the guide).

Two-way frequencies were also done to determine if age and level of education influenced choices. These results were referred to when creating the website to ensure that a variety of price-ranges and styles were included to satisfy all age groups included in the study. Although the different styles chosen for the mock website were representative of different price-ranges it was decided not to add the price to the mock website. After analysing the results, it appeared that many consumers often use price (an extrinsic cue, and not part of this study) as quality indicator (See Figure 4: Chapter 4).

Adding price could therefore cause a bias and affect the responses of the participants.

To determine which type of product information respondents would find helpful, the responses to 'extremely helpful' or 'helpful' were grouped together. Only 62 respondents answered this question. The null hypothesis (H_0: $\pi_0 = 0.5$) was rejected if 38 (n= 62) or more respondents thought that the product information would be 'very helpful' or 'helpful'. The alternative hypothesis (H_a: $\pi_0 > 0.5$) was accepted if more than 38 respondents (n=62) thought that the product information would be 'extremely helpful' or 'helpful'. Once again the hypotheses were tested on a 5 % level of significance.

The following table indicates which questions were used to test the different concepts for the first phase of the study. The specific questions related to the different sub-problems are indicated as well as the types of statistical measures used for the analysis of the results.

TABLE II: OPERATIONALISATION: OBJECTIVES AND SUB-OBJECTIVES, RELATIVE QUESTIONS, AND STATISTICAL METHODS

Objectives & Sub-objective	Relative question	Statistical methods used
Sub-objective 1 Do adult female consumers use formal, physical features of textiles (i.e. fibre, yarn, fabric structure and finish) in their assessment of the quality of apparel textiles for formal day and casual wear?	Section A: Question 1 (V3,4,6,7,9& 10 – intrinsic aspects) (V2,5 & 8 – extrinsic)	Frequencies & mean scores Hypotheses testing on a 5% level of significance; $H_0 = 0.5$ $H_a > 0.5$ Critical Z-value ≥ 1.645
Sub-objective 1.1 Do consumers relate formal textile features to functional performance aspects? 1.1.1 Do consumers relate formal features of textiles to durability? 1.1.2 Do consumers relate formal features of textiles to comfort (including sensory appeal)? 1.1.3 Do consumers relate formal features of textiles to maintenance? 1.1.4 Do consumers relate formal features of textiles to end-use serviceability?	Section A: Question 2a & b (V13 – V16 + V17 – V20) Section A: Question 4.1-4.2 (V38-43; V44-45; V46-51;V52) Section A: Question 5.1-5.2 (V53-V59; V60-V66) Section A: Question 6.1-6.2 (V67-77; V78-88) Section A: Question 7 (V89-92) Section D: Question 1(V119-131) Question 2(V132-144) Question 3(V145-157) Question 4(V158-176)	Frequencies & mean scores Frequencies & means Hypotheses testing on a 5% level of significance; $H_0 = 0.5$ $H_a > 0.5$ Critical Z-value ≥ 1.645 Cronbach's Alpha coefficient Frequencies, mean scores & two way frequencies

Sub-objective 1.2: Do consumers use label information to assist them when making purchase decisions?	Section A: Question 3.1 – 3.5 (V21; V22-27; V28-33; V34; V35; V36-37)	Frequencies & mean scores Hypotheses testing on a 5% level of significance; $H_0 = 0.5$ $H_a > 0.5$ Critical Z-value ≥ 1.645
Objective 2: To use the above analysed data to develop a guide for the online assessment of quality	Section A: Question 1-4 Section B: Question 1-8 Section C: Question 1-4 Section D: Question 1-4	Frequencies, mean scores and two way frequencies were used to determine the content of the guide Hypotheses testing on a 5% level of significance (Q.8)

3.7 QUALITY OF THE DATA

3.7.1 Validity

This refers to the extent to which a measure accurately reflects the concept it intends to measure (measurement validity). If the measures used actually measure what they claim to, and if there are no logical errors are made when drawing conclusions from the data, the study is valid. The validity of a measure can be determined by using standard yardsticks, which all have to do with threats and biases which could undermine meaningful results. (Mouton, 1996: 111; De Vos & Fouché, 1998:84-5; Neuman, 2000: 167-170; Babbie & Mouton, 2001: 122-123; Trochim, 2005: 51; Statistics Solutions, 2007).

- **Construct validity**

Construct validity refers to the logic of the items which comprise the measures of the concepts. A good construct has a theoretical basis, indicated ('translated') by clear operational definitions that involve measurable instruments (Delport, 2002:12; Trochim, 2005: 50; Statistics Solutions, 2007).

➢ **Criterion-related validity**

   Convergent validity is assessed by the correlation among items which make up the instrument used to measure a construct (internal consistency).

In this study Cronbach's alpha was used to establish internal consistency. This method is both valid and reliable. An alpha-value of 0.70 is considered adequate, and a value of 0.80 is considered good for confirmatory purposes (Trochim, 2005: 51).

> ➢ **Translation validity**

    Face validity has to do with items seeming to measure what they claim to. This does therefore not refer to what an instrument actually measures, but what it appears to measure (Neuman, 2000: 168; Babbie & Mouton, 2001: 123; Delport, 2002; 12). The measure therefore appears relevant to those who will complete it. In the case of the questionnaire, the questions all relate to the functional and performance aspects of textiles used for apparel. One set of questions relates to the use of in-home shopping (catalogue or Internet) as method of shopping.

    Content validity is concerned with adequacy and representativeness. To ensure theoretical validity in this study, a thorough review of literature was done. The relevant concepts were defined, and a conceptual framework was developed to indicate the relationship between the different dimensions of quality to obtain a detailed description of the content domain (Trochim, 2005: 51).

    A **pre-test** was also done to test the measuring instrument.

3.7.2 Reliability

Reliability is an indicator of dependability or consistency (Neuman, 2000: 164). It indicates the likelihood that a given measurement technique will repeatedly yield the same description of a given phenomenon (Mouton, 1996: 144). The numerical results that are produced by the indicator do not vary because of the measurement instrument itself. In the case of this study, the

type of measurement used, for instance Likert-type scales, ranking, standard statistical coding methods, as well as the use of a pre-test ensure reliability (Neuman, 2000: 165; Babbie & Mouton, 2001: 120; 646). Reliability was ensured in this study by applying the following strategies:

- The questions used in the first questionnaire were predominantly closed questions
- The questionnaire was pre-tested
- The questionnaire could be completed in a relatively short time, was easy to understand and relevant
- A cover letter explaining the objective of the study accompanied the first questionnaire
- Likert-type scales and ranking are well-established methods of data collection. Standard statistical coding methods were also used.
- Cronbach's Alpha coefficient[3] was used to measure the internal consistency of the responses to the Likert-type scales used for assessing durability, comfort and ease-of care, as well as the scales used to assess the type of information (related to performance properties) consumers would find helpful when making decisions.

3.7.3 Representative sampling

According to Mouton (1996: 136), the key concept in sampling is that the sample should be representative of the chosen population. Only then can generalisations concerning the whole population be made. The sampling frame must be representative of the target population to prevent bias.

The sampling method used for the first part of the study was purposive (judgemental sampling). This is an acceptable sampling method when the researcher wants to select a wide variety of respondents to test the broad application of the questions (Neuman, 2000: 198; Babbie & Mouton, 2001: 166). As the first phase of this study can be seen as the preliminary phase to

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[3] The alpha coefficient is the expression of an instrument's reliability and ranges from -1.00 to +1.00. There is a general agreement on a minimum standard for alpha ≥ 0.6, but some experts recommend the use of a 0.7 or higher standard. The higher the alpha coefficient, the stronger is the coherence of items (Watson & Klassen, 2004).

obtain enough information to develop a usable instrument (the textile quality assessment guide) this method is acceptable.

As this sampling technique results in samples of questionable representative-ness, they are primarily used for exploratory studies, as is the case with this study.

3.8   DATA PRESENTATION

The data obtained through the questionnaire were statistically analysed. The data conversion is available in hard copy (researcher's files) as well as an electronic copy at the Department of Statistics of the University of Pretoria.

The results and statistical findings of the first phase of the study are presented, discussed and interpreted in Chapter 4. The methodology for the second and third phases of the study will be discussed in Chapter 5 and results and statistical findings of the last phase of the study are presented, discussed and interpreted in Chapter 6.

CHAPTER 4

RESULTS, DISCUSSION AND INTERPRETATION OF PHASE ONE OF THE STUDY

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4.1 DEMOGRAPHIC INFORMATION

TABLE III: AGES OF RESPONDENTS

Age of respondents	Number of respondents (n=116)	% Respondents
25 – 29 years old	38	32.76
30 – 34 years old	40	34.48
35 – 40 years old	38	32.76

From Table III it is evident that the three age ranges were more or less equally represented.

TABLE IV: EDUCATION LEVEL OF RESPONDENTS

Highest qualification	Number of respondents (n=116)	% Respondents
Post school certificate/ diploma	24	20.87
National diploma/ Higher diploma	22	19.13
Degree or equivalent	69	60.00

From Table IV one can see that 60 % of the respondents had a degree or equivalent qualification.

4.2 RESULTS RELATING TO SUB-OBJECTIVES

4.2.1 Formal physical features that adult career women use in their assessment of apparel textile quality when purchasing formal and casual daywear (Sub-objective 1)

The importance of both intrinsic and extrinsic factors that consumers use as quality indicators was measured with question 1. The respondents were asked to indicate the importance of each of the given aspects on a four-point Likert-type scale by indicating if that specific aspect was very important,

important, slightly important or not important. The respondents also had the opportunity to list two other aspects (not appearing in the list) that they use to assess quality. The results, as represented in Table V and Figure 4, indicate the intrinsic or extrinsic cues, the frequency (number of responses, expressed as a percentage of all respondents) and the average of all the responses (in the table the average indicates the importance of each cue as indicated by all respondents).

TABLE V: INTRINSIC AND EXTRINSIC QUALITY CUES USED WHEN PURCHASING GARMENTS

	Very important (n=116)	Important (n=116)	Slightly Important (n=116)	Not Important (n=116)	Mean score	SD	Over-all impor-tance of the cue	H_0 rejected on 5% level of significance
Price	48	59	7	2	3.32	0.667	1	✓
Fibre type	21	70	18	6	2.90	0.739	7	✓
Fabric texture	26	69	16	5	3.00	0.734	5	✓
Brand	7	23	47	39	2.40	0.884	9	x
Fabric structure	16	47	45	7	2.63	0.800	8	x
Care procedure	40	52	18	6	3.09	0.840	3	✓
Attention to detail	30	53	33	0	2.97	0.740	6	✓
Fabric suitable to end-use	44	52	16	4	3.17	0.794	2	✓
Type of finish on fabric	34	57	22	3	3.05	0.767	4	✓

The overall importance of the cue (based on the calculated mean scores; see Figure 5) indicates that price (an extrinsic attribute) was the main indicator of quality for the respondents. This was followed by suitability of the fabric for end-use and care procedure, fabric finish, and fabric texture. Attention to detail and fabric structure are used slightly less as quality cues, while respondents do not seem to relate fibre content to quality. Brand name was not an important quality cue for this sample of respondents.

To determine which aspects should be included in the quality assessment guide, a statistical hypothesis was tested. In all cases 50 % or more respondents rated the aspects as 'very important' or 'important'. As discussed in Chapter 3, this means that more than 67 respondents (58 %) always thought the aspects to be 'very important' or 'important' (Table V and

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Figure 5). The null hypothesis was therefore rejected (on a 5 % level of significance). This also means that all the aspects should be included in the guide as they would be the aspects consumers would look for in a textile assessment guide to help them with decision-making. (For this study only the intrinsic attributes were included, but the results for the variables testing extrinsic aspects were also considered when the website was created).
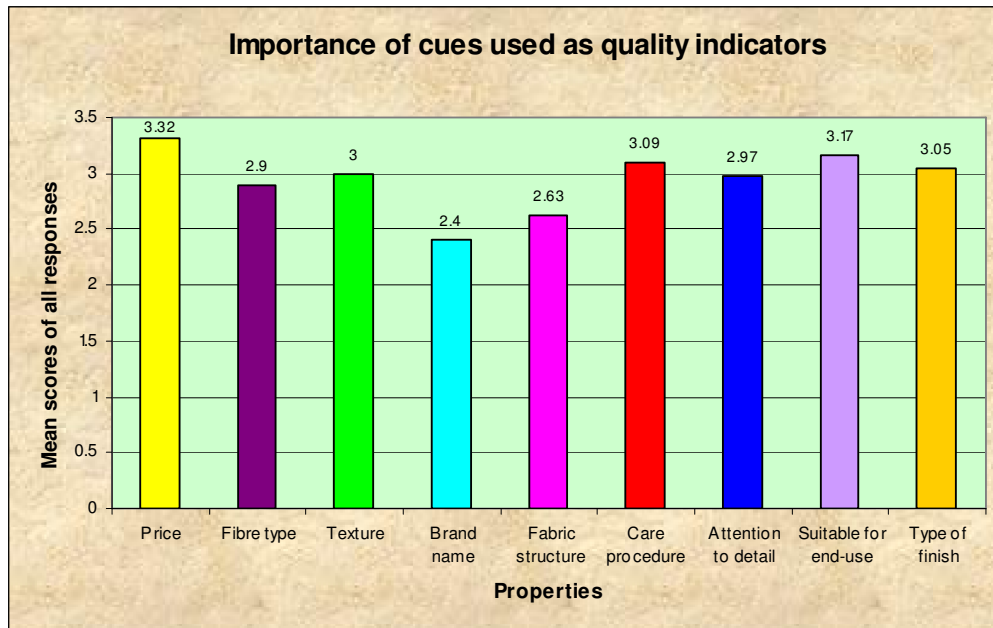
FIGURE 5: IMPORTANCE OF CUES USED AS QUALITY INDICATORS

Only 53 responses (by 41 respondents; 35 %) were registered for the open-ended question at the end of question 1. In addition to the above, 15 respondents (28 %) used appearance as an indicator of quality, 11 (21 %) used garment construction as quality measure, while another 10 (19 %) mentioned comfort as quality cue. The other quality indicators that were listed were related to performance aspects (durability, pilling, shape retention, type of care procedure and flexibility). Two of the 53 respondents (4 %) used the retailer as quality cue. This could indicate positive prior experiences and quality products. As there were so few responses, only aspects related to performance properties were included in the guide.

4.2.1.1   Relatedness of formal, physical features of textiles and performance aspects when assessing quality during the purchasing process (Sub-objective 1.1)

The respondents were asked to rate the importance (from most important to least important) they attach to comfort, easy-care, durability and appearance when purchasing garments for formal day or office wear, and were asked to do the same for casual daywear (Table VI a and Figure 6). Here 114 responses were received for comfort, easy-care and appearance, while durability received 115 responses.

TABLE VI a: THE IMPORTANCE OF PERFORMANCE FEATURES WHEN PURCHASING FORMAL DAY OR OFFICE WEAR

Feature	Most important	2nd most important	3rd most important	Least important	Mean scores - all responses	Standard deviation	Overall importance of feature
Comfort (n=114)	27	57	19	11	2.88	0.884	2
Easy- care (n=114)	2	7	39	66	1.52	0.694	4
Durability (n=115)	20	19	46	30	2.52	1.033	3
Appearance (n=114)	66	31	10	7	3.37	0.885	1
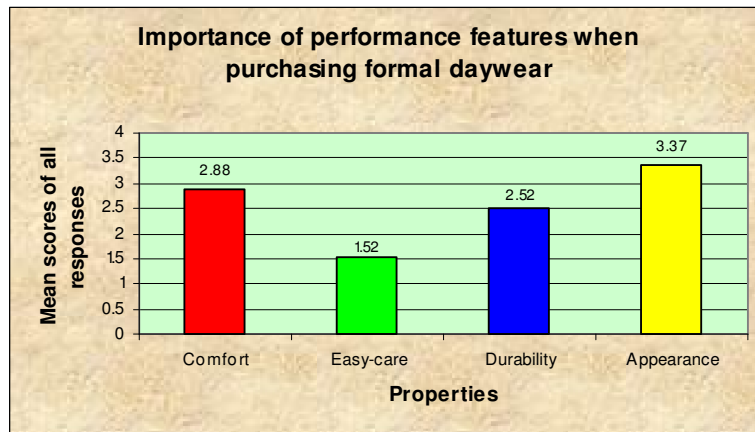
FIGURE 6:   IMPORTANCE OF PERFORMANCE FEATURES WHEN PURCHASING FORMAL DAYWEAR

From the mean scores of all the responses (Table VI a and Figure 6) it seems that appearance is rated as the most important factor when purchasing formal daywear. Comfort was the next most important factor,

followed by durability. The consumers did not seem to mind if formal daywear did not have easy-care properties. (Here no hypotheses were tested; only frequencies and mean scores were used to rank the properties).

TABLE VI b: THE IMPORTANCE OF PERFORMANCE FEATURES WHEN PURCHASING CASUAL WEAR

Feature	Most important	2nd most important	3rd most important	Least important	Mean scores - all responses	Standard deviation	Overall importance of feature
Comfort (n=114)	63	45	4	2	3.48	0.655	1
Easy- care (n=114)	3	21	49	41	1.88	0.800	3
Durability (n=115)	3	10	46	56	1.65	0.750	4
Appearance (n=114)	46	38	15	15	3.01	1.035	2

In the case of casual wear, the picture is slightly different. Here comfort is rated as the most important factor, followed by appearance. In this case easy-care was seen as more important than durability (Table VI b and Figure 7). (Once again there were 114 responses for comfort, easy-care and appearance and 115 for durability).
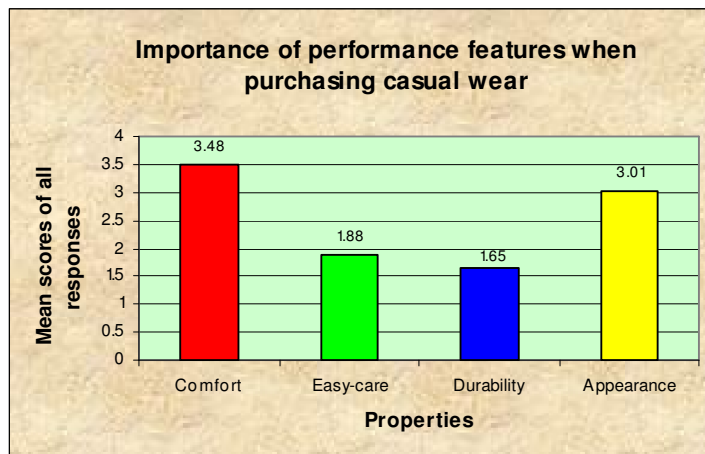
FIGURE 7: THE IMPORTANCE OF PERFORMANCE FEATURES WHEN PURCHASING CASUAL DAYWEAR

- **Rating of durability features of textiles (Sub-objective 1.1.1)**

The respondents were asked to indicate which features they usually use as indicators of durability when purchasing formal daywear or casual daywear. They were asked to indicate if they always, sometimes, seldom or never use

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the specified durability indicators. The total number of responses for all properties was 114 (Table VII a). Cronbach's alpha coefficient was used to assess the degree of internal consistency of the responses for durability. An alpha value of 0.75 was obtained (an alpha value of $P \geq 0.70$ is an acceptable measure of consistency) (Gliem & Gliem, 2003; Watson & Klassen, 2004).

TABLE VII a: INDICATORS OF DURABILITY WHEN BUYING FORMAL DAY OR OFFICE WEAR

Feature	Always (n=114)	Some-times (n=114)	Seldom (n=114)	Never (n=114)	Mean scores	Std. Devia-tion	Overall importance	H_0 rejected on 5% level of significance
Abrasion resistance	64	41	4	5	3.44	0.765	2	✓
Closeness of weave / knit	21	68	22	3	2.94	0.695	4	✓
Elastic recovery	58	45	10	1	3.40	0.688	3	✓
Snagging resistance	74	28	11	1	3.54	0.706	1	✓
Fabric fineness	15	52	40	7	2.66	0.785	5	✓
Yarn thickness	12	37	35	30	2.27	0.971	6	x
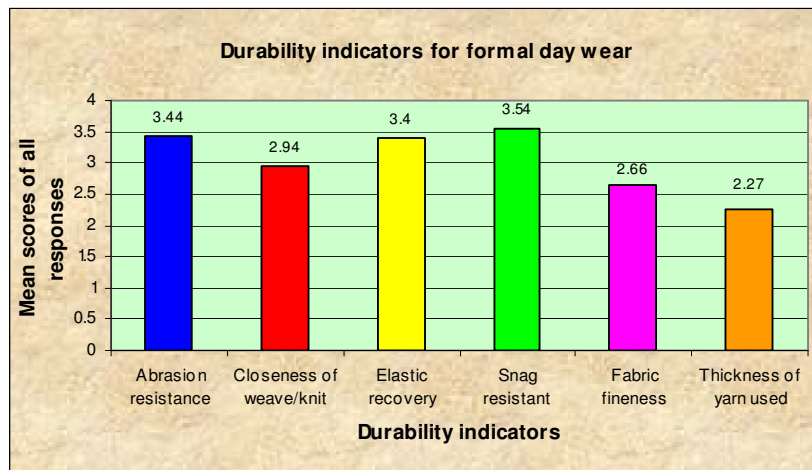
FIGURE 8: DURABILITY INDICATORS USED WHEN PURCHASING FORMAL DAYWEAR

The property that was judged the best indicator of durability by using the mean scores of all responses was snagging resistance (3.54), followed by abrasion resistance (3.44) and elastic recovery (3.4). The closeness of weave or knit (2.94), fabric fineness (2.66) and yarn thickness (2.27) were not as important when assessing durability of formal daywear (Figure 8).

To determine the statistical significance of these results (on a 5 % level of significance) the statistical hypotheses (H_0 and H_a) were tested. [As explained

in Chapter 3, if >67 respondents always chose the indicator, the null hypothesis (H_0) would be rejected].

In the case of the durability indicators, only yarn thickness was not 'always' or 'sometimes' used by more than 67 (58%) respondents. In all cases except one (yarn thickness) the null hypothesis (H_0) was therefore rejected (on a 5 % level of significance) (Table VII a).

Other durability indicators mentioned in an open-ended question included fibre content, colourfastness, workmanship (garment), and price. Only 17 (15 %) respondents used these additional indicators.

TABLE VII b: INDICATORS OF DURABILITY WHEN BUYING CASUAL WEAR

Feature	Always	Some-times	Seldom	Never	Mean scores	Std. Deviation	Overall impor-tance	H_0 rejected on 5% level of significance
Abrasion resistance	57	46	7	5	3.35	0.784	3	✓
Closeness of weave / knit	21	67	25	2	2.93	0.685	4	✓
Elastic recovery	60	43	8	4	3.38	0.768	2	✓
Snagging resistance	66	42	6	1	3.50	0.640	1	✓
Fabric fineness	15	49	37	13	2.58	0.861	5	x
Yarn thickness	10	35	36	33	2.19	0.958	6	x
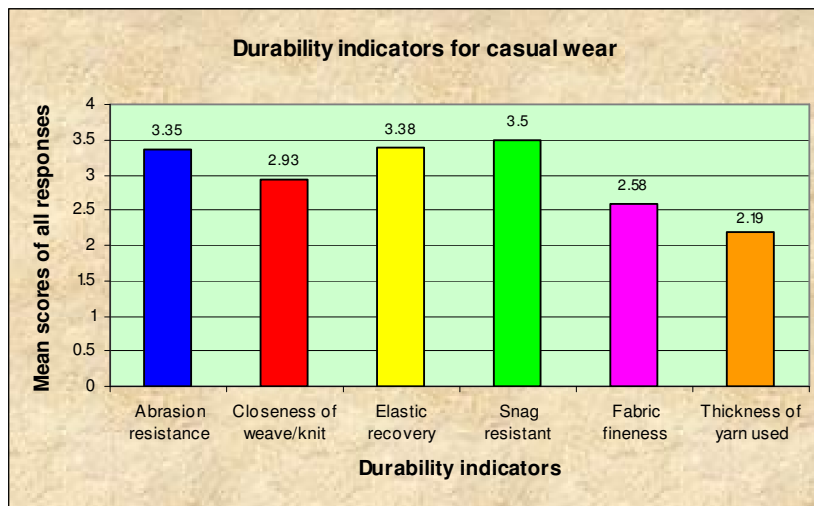
FIGURE 9:   DURABILITY INDICATORS USED WHEN PURCHASING CASUAL DAYWEAR

For casual wear, the results were slightly different (Table VII b and Figure 9). In total 115 responses were received for abrasion resistance, closeness of

weave/knit, elastic recovery and snagging resistance. The other two properties each received 114 responses. Once again the mean scores for all the responses were determined. Snagging resistance was still the most important indicator of durability (3.35), followed by elastic recovery (3.38) and then abrasion resistance (3.35). Once again, the closeness of weave or knit (2.93), fabric fineness (2.58) and yarn thickness (2.19) were not as important when assessing durability of casual wear.

In the case of casual daywear the null hypothesis could not be rejected (on a 5 % level of significance) in the case of fabric fineness and yarn thickness – meaning that less than 67 respondents 'always' or 'sometimes' used these specific durability indicators when purchasing casual daywear. The null hypothesis was rejected in the case of snagging resistance, elastic recovery, abrasion resistance and closeness of weave or knit. Other durability indicators (open-ended questions) included colour-fastness, fibre content, workmanship (garment), and price. Only 15 (13 %) respondents used these additional indicators. Snagging resistance, elastic recovery, abrasion resistance and closeness of weave would be the aspects looked for in a textile guide. By including the other two durability properties as well, the consumers could be helped to realise how these aspects also impact on durability, which could eventually assist with decision-making.

Once again Cronbach's alpha coefficient was used to assess the degree of internal consistency of the responses for durability. An alpha value of 0.75 was obtained, which indicates an acceptable measure of consistency.

- **Rating of comfort features of textiles (Sub-objective 1.1.2)**

The mean scores indicate that for most respondents the coolness of the fabric on the skin is indicative of comfort and the property that is most commonly used when assessing comfort of formal day or office wear (4.28)(Table VIII a and Figure 10). Soft, smooth (3.40), lightweight (3.33) and flexible fabrics (3.19) are also equated to comfort. Absorbency is used slightly

less as comfort indicator (3.03), and openness of weave or knit is used even less (2.45) when assessing comfort.

TABLE VIII a: INDICATORS OF COMFORT WHEN BUYING FORMAL DAY OR OFFICE WEAR

Feature	Always (n=116)	Some-times (n=116)	Seldom (n=116)	Never (n=116)	Mean score	Std. Devia-tion	Overall impor-tance	H_0 rejected on 5% level of significance
Cool on skin (opposed to clammy)	75	39	2	0	4.28	0.520	1	✓
Soft and smooth	55	52	9	0	3.40	0.631	2	✓
Absorbent	34	59	16	7	3.03	0.823	5	✓
Lightweight (opposed to bulky)	46	62	8	0	3.33	0.601	3	✓
Stretchy (moves with body)	41	58	15	2	3.19	0.721	4	✓
Openness of weave or knit	15	43	37	21	2.45	0.936	6	x
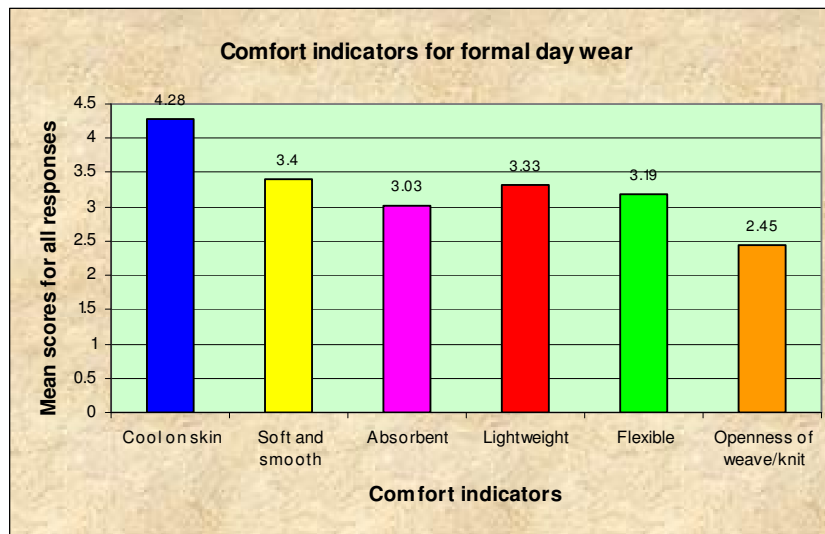
FIGURE 10: COMFORT INDICATORS WHEN PURCHASING FORMAL DAYWEAR

When determining the statistical significance of these results, the null hypothesis was rejected in all cases except one. In the case of 'openness of weave and/or knit' as comfort indicator, the null hypothesis could not be rejected, as fewer than 67 respondents 'always' or 'sometimes' used this as indicator (Table VIII a and Figure 10). Eight respondents (7 %) also mentioned that they looked at the style and fit of the garment, its appearance and the drape ability of the fabric when they assessed comfort.

The Cronbach alpha coefficient value was 0.70 in this case – once again an acceptable value for internal consistency of responses for comfort.

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TABLE VIII b: INDICATORS OF COMFORT WHEN BUYING CASUAL WEAR

Feature	Always (n=116)	Some-times (n=116)	Seldom (n=116)	Never (n=116)	Mean score	Std. Devia-tion	Overall impor-tance	H_0 rejected on 5% level of significance
Cool on skin (opposed to clammy)	85	29	2	0	3.72	0.490	1	✓
Soft and smooth	51	52	12	1	3.32	0.693	5	✓
Absorbent	57	50	6	3	3.39	0.707	2	✓
Lightweight (opposed to bulky)	54	50	12	0	3.36	0.665	3	✓
Stretchy (moves with body)	54	50	11	1	3.35	0.688	4	✓
Openness of weave or knit	20	42	39	15	2.58	0.925	6	x
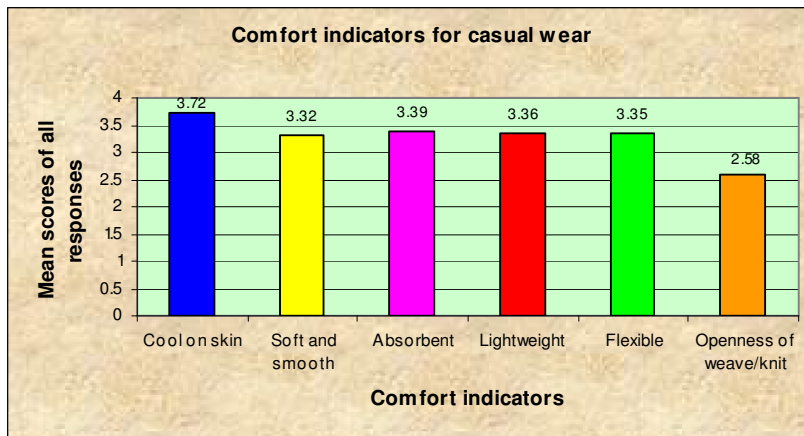
FIGURE 11:   COMFORT INDICATORS WHEN PURCHASING CASUAL DAYWEAR

For casual wear, the mean scores indicate that coolness on skin is rated as the most important indicator of comfort (3.72). Absorbency (3.39), lightweight (3.36), flexibility (3.35), and softness and smoothness of the fabric (3.32) are also used as measures of comfort. Once again openness of weave or knit is not often used (2.58) to assess comfort (Table VIII b and Figure 11).

When determining the statistical significance of these results, the null hypothesis was rejected in all cases except one. In the case of 'openness of weave and/or knit' as comfort indicator, the null hypothesis could not be rejected, as less than 67 respondents 'always' or 'sometimes' used this as indicator (Table VIII b).

As in the case of formal daywear, the Cronbach alpha coefficient was 0.70 – an acceptable value for internal consistency of responses for comfort.

Five respondents (4%) also mentioned in an open-ended question that they looked at the style and fit of the garment, its appearance and the drape ability of the fabric when they assessed comfort.

Once again the inclusion of all these aspects in a textile guide would benefit the consumer.

- **Rating of maintenance features of textiles (Sub-objective 1.1.3)**

  TABLE IX a: INDICATORS OF EASY-CARE WHEN BUYING FORMAL DAY OR OFFICE WEAR

Feature	Always (n=116)	Some-times (n=116)	Seldom (n=116)	Never (n=116)	Mean score	Std. Devia-tion	Overall import-ance	H_0 rejected on 5% level of significance
Soil resistance	54	45	12	5	3.28	0.819	6	✓
No static build-up	39	45	29	3	3.03	0.833	8	✓
Wrinkle resistance	88	28	0	0	3.76	0.430	1	✓
Heat resistance	40	52	21	3	3.11	0.789	7	✓
Stain resistance	33	56	22	4	3.00	0.789	9	✓
Colourfastness	62	41	10	3	3.40	0.756	4	✓
Machine washable	78	34	4	0	3.64	0.550	2	✓
Tumble dryable	36	43	24	13	2.88	0.979	10	✓
Little or no ironing	52	49	11	4	3.28	0.778	5	✓
Good shape retention	66	44	6	0	3.52	0.587	3	✓
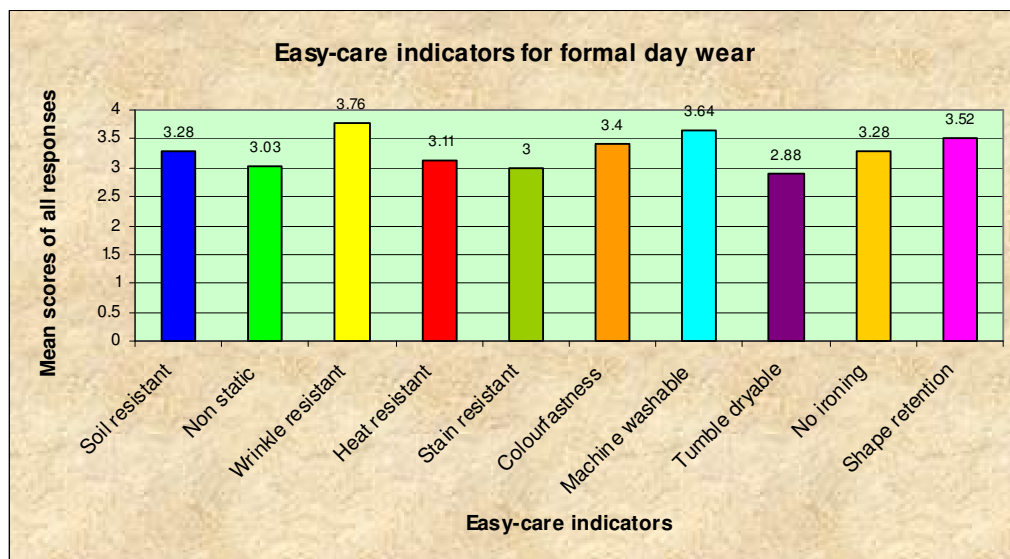
FIGURE 12: EASY-CARE INDICATORS WHEN PURCHASING FORMAL DAYWEAR

Wrinkle resistance was judged as the most important indicator of easy-care (3.76). Machine washable garments were also seen as easy-care (3.64) as well as garments that have good shape retention (i.e. do not stretch or shrink – 3.52). Although slightly less important than the first three properties, colourfastness (3.40) was also judged to be an indicator of easy-care (probably this means less sorting or worrying about colour staining). No or little ironing and soil resistance closely followed colourfastness as easy-care indicators for formal daywear. [Although the mean scores of all the responses indicated that no or little ironing was used as often than soil resistance (3.28), more respondents (54) indicated that they 'always' used soil resistance as indicator, fewer respondents (52) 'always' used this as indicator (Table IX a)]. The mean scores indicate that heat resistance (3.11), non-static properties (3.03) and stain resistance (3.00) were less used indicators of easy-care. The property that was least used to indicate easy-care was if the garment could be tumble-dried (the mean score of all responses was 2.88).

When determining the statistical significance of these results, the null hypothesis was rejected in all cases as more than 67 respondents 'always' or 'sometimes' used these as indicators of easy care (Tables IX a).

In this case the Cronbach alpha coefficient value, used to assess the degree of internal consistency of the responses for ease-of-care, was 0.71, which is also an acceptable value for internal consistency of responses.

Two respondents also mentioned non-dry cleanable and one respondent wrinkle-free appearance as additional indicators of easy-care in an open-ended question.

For casual wear (Table XI b and Figure 13) the mean scores of all responses indicate that the ability to machine wash garments (3.75) is seen as the most important easy-care property. The ability of a garment to retain shape (3.57) was the second and wrinkle resistance (3.49) the third most important indicator of easy-care properties for casual daywear, followed by

colourfastness (3.38), little or no ironing (3.36), and soil resistance (3.21).
Heat resistance (3.10), stain resistance (3.09) and non-static properties
(3.08) were almost equally important, and once again the ability to tumble dry
a garment was based on the mean scores of all responses (3.02), the least
important easy-care property.

TABLE IX b: INDICATORS OF EASY-CARE WHEN BUYING CASUAL WEAR

Feature	Always (n=115)	Some-times (n=115)	Seldom (n=115)	Never (n=115)	Mean score	Std. Devia-tion	Overall import-ance	H_0 rejected on 5% level of significance
Soil resistance	47	52	9	7	3.21	0.832	6	✓
No static build-up	38	52	21	4	3.08	0.807	9	✓
Wrinkle resistance	67	39	7	2	3.49	0.693	3	✓
Heat resistance	41	50	19	5	3.10	0.831	7	✓
Stain resistance	36	55	22	2	3.09	0.756	8	✓
Colourfastness	60	40	14	1	3.38	0.732	4	✓
Machine washable	87	27	1	0	3.75	0.456	1	✓
Tumble dryable	49	33	19	14	3.02	1.043	10	✓
Little or no ironing	55	49	8	3	3.36	0.728	5	✓
Good shape retention	67	46	2	0	3.57	0.532	2	✓
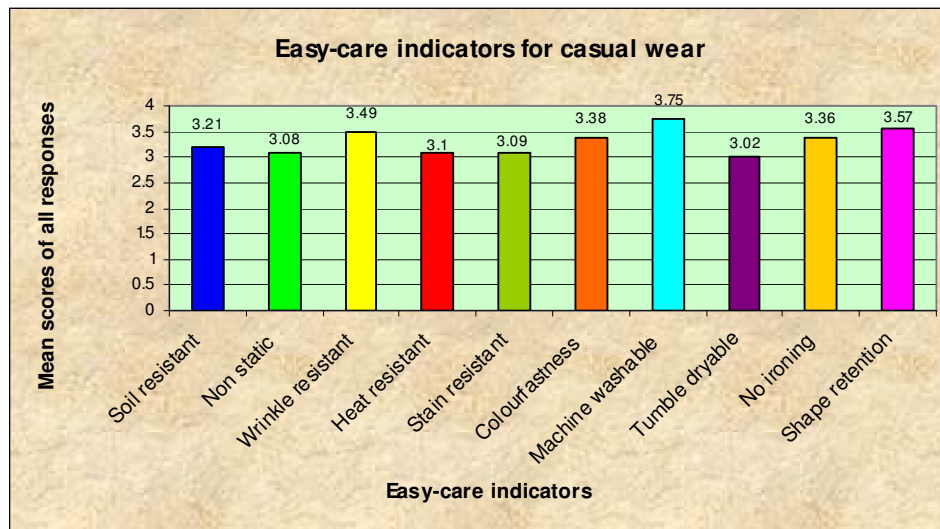
FIGURE 13: EASY-CARE INDICATORS WHEN PURCHASING CASUAL DAYWEAR

When looking at the respondents that 'always' or 'sometimes' use these
properties as indicators of easy-care, the results are slightly different. The
ability to machine wash a garment is 'always' or 'sometimes' used by 114 of
the respondents as indicator of easy-care. The ability of a garment to retain

shape is 'always' or 'sometimes' used by 113 respondents as easy-care indicator, while wrinkle resistance is used by 106 respondents. Little or no ironing was 'always' or 'sometimes' used by 104 respondents and 100 respondents 'always' or 'sometimes' used colourfastness to assess easy-care, followed by 99 respondents who use soil resistance as easy-care indicator. Both heat resistance and stain resistance are 'always' or 'sometimes' used by 91 respondents as indicators of easy-care. Non-static properties was 'always' or 'sometimes' used by 90 respondents, while 82 used the ability to tumble dry a garment as easy-care indicator.

When determining the statistical significance of these results, the null hypothesis was rejected in all cases as more than 67 respondents 'always' or 'sometimes' used these as indicators of easy-care (Table IX b). As easy-care instructions are familiar to the South African consumer, they would expect information on easy-care properties in the guide to help them with decision-making.

The Cronbach alpha coefficient value was higher than in the case of formal daywear. The alpha value was 0.79 which an acceptable indication of internal consistency of the responses relating to ease-of-care (Watson & Klassen, 2004).

Five respondents answered the open-ended question and mentioned the use of non-dry cleanable, appearance, and durability as additional indicators of easy-care.

An open-ended question (Section A: 7) was added to determine if consumers consider any other aspects as important when purchasing apparel. Only 37 (32 %) respondents mentioned other aspects, which they judged to be important when buying apparel. These aspects varied from appearance (including colour) (20 of the 37 respondents); comfort (including fit) (12 of the 37 respondents); practical style or mix-and-match possibilities (9 of the 37 respondents); value for money (8 of the 37 respondents); workmanship of garment (6 of the 37 respondents); price (4 of the 37 respondents);

uniqueness (3 of the 37 respondents); and no ironing problems (3 of the 37 respondents). Although a variety of extra properties were mentioned, only the performance properties relating to textiles were used in the guide.

- **Respondents' assessment of fabrics for end-use serviceability (Sub-objective 1.1.4)**

A set of samples, suitable for both formal and casual wear, was supplied to determine if handling the actual fabric would support the results of Section A of the questionnaire.

The set of samples consisted of three medium weight woven fabrics used in apparel, which would be suitable for jackets, skirts or pants; three light weight woven fabrics that would be suitable for tops, blouses or shirts, and possibly for unstructured suits; three knitted fabrics, one a medium weight double knit, a single jersey knit, and a lacy knit.

The respondents were asked to rate the durability, comfort and easy-care properties of each set of samples after examining and handling them as they would before purchasing. They were also asked to give reasons for their choices.

➢ **Durability rating of the fabric samples**

As some respondents only indicated their first choice, the results in Tables X a – c, Table XI a – c and Table XII a – c are indicated in percentage; the frequencies are indicated in brackets.

TABLE X a: THE DURABILITY RATING OF MEDIUM WEIGHT WOVEN FABRICS

Fabric type	Most durable	Durable	Least durable	Mean score	SD	Overall durability
Fabric 1A: Twill weave (n=113)	50.44 % (57)	42.48 % (48)	7.08 % (8)	2.43	0.625	1
Fabric 1B: Balanced plain weave (n=115)	31.25 % (38)	39.29 % (44)	29.46 % (33)	2.10	0.782	2
Fabric 1C: Uneven yarn thickness – plain weave (n=113)	21.24 % (24)	17.81 % (19)	61.95 % (70)	1.59	0.90	3

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Although fabric structure as cue to assess quality was placed eighth (out of nine – see Table V), the respondents were able to recognise that the twill weave would be the most durable fabric of the medium weight woven fabrics.

TABLE X b: THE DURABILITY RATING OF LIGHT WEIGHT WOVEN FABRICS

Fabric type	Most durable	Durable	Least durable	Mean score	SD	Overall durability
Fabric 2A: Balanced plain weave – lawn (n=112)	18.75 % (21)	11.61 % (13)	69.64 % (78)	1.49	0.794	3
Fabric 2B: Balanced plain weave – slightly crinkled finish (n=114)	34.21 % (39)	54.39 % (62)	11.40 % (13)	2.23	0.639	2
Fabric 2C: Balanced plain weave – crinkled finish (n=112)	50.00 % (56)	32.14 % (36)	17.86 % (20)	2.32	0.762	1

Here the fabric with the more crinkled finish was judged to be more durable than the one with a slightly less pronounced crinkled finish (it was slightly heavier - 145g/m^2 - than the less crinkled fabric, which weighed 132 g/m^2). The smooth lawn fabric was assessed as the least durable (it was also the lightest weight; 117,5 g/ m^2)(Table X b).

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TABLE X c: THE DURABILITY RATING OF KNITTED FABRICS

Fabric type	Most durable	Durable	Least durable	Mean score	SD	Overall durability
Fabric 3A: Double knit (n=115)	67.83 % (78)	23.48 % (27)	8.70 % (10)	2.59	0.647	1
Fabric 3B: Single jersey knit (n=112)	21.43 % (24)	42.86 % (48)	35.71 % (40)	1.86	0.746	2
Fabric 3C: Lacy knit (n=111)	12.61 % (14)	32.43 % (36)	54.95 % (61)	1.58	0.708	3

These knits varied in weight, with the double knit the heaviest (295 g/ m^2), the single jersey knit slightly lighter (230 g/ m^2) and the lacy knit the lightest (190 g/ m^2), but with a coarser look than both the double and the single knit. The double knit was judged to be the most durable, followed by the single jersey fabric (Table X c).

In an open-ended question the respondents were asked to indicate what had helped them to decide which fabric in each set would be the most durable. Of the respondents 28 % used sturdiness or firmness of weave or knit to determine durability, while 19 % said that they judged durability by the hand of the fabrics; another 14 % assessed durability by the fabric's appearance

and 11 % used fibre content to judge durability. Other properties used were flexibility (9 %), predicted shape retention (5 %), anticipated care procedures (2 %), and ability to maintain a matt surface (< 1 %).

To summarise, it seems as if most respondents used tactile aspects and appearance to judge the durability of a fabric. As one of the problems with online buying is the lack of a tactile experience, special attention had to be given to these aspects when designing the website and online textile assessment guide. In the guide descriptive explanations are used to indicate which fibre and fabric properties are related to durability.

➢ **Comfort rating of the fabric samples**

TABLE XI a: THE COMFORT RATING OF MEDIUM WEIGHT WOVEN FABRICS

Fabric type	Most comfortable	Comfortable	Least comfortable	Mean score	SD	Overall comfort
Fabric 1A: Twill weave (n=113)	46.90 % (53)	40.71 % (46)	12.39 % (14)	2.35	0.691	1
Fabric 1B: Balanced plain weave (n=114)	47.37 % (54)	35.09 % (40)	17.54 % (20)	2.30	0.762	2
Fabric 1C: Uneven yarn thickness – plain weave (n=112)	7.14 % (8)	23.21 % (26)	69.64 % (78)	1.38	0.617	3

The twill weave fabric was judged to be slightly more comfortable than the balanced plain weave (187.5 g/ m^2), in spite of being the heaviest of the three fabrics (242.5 g/ m^2). The fabric with the uneven yarn thickness was assessed as the least comfortable, in spite of being the lightest fabric (177.5 g/ m^2) (Table XI a). The fibre content was indicated on the sample sheet; the twill weave fabric was a blend of polyester and viscose, while the other two fabrics were both 100 % polyester. It is possible that the fibre content helped the respondents to rate the comfort of the three fabrics.

TABLE XI b: THE COMFORT RATING OF LIGHT WEIGHT WOVEN FABRICS

Fabric type	Most comfortable	Comfortable	Least comfortable	Mean score	SD	Overall comfort
Fabric 2A: Balanced plain weave – lawn (n=114)	23.68 % (27)	19.30 % (22)	57.02 % (65)	1.67	0.838	3
Fabric 2B: Balanced plain weave – slightly crinkled finish (n=114)	36.84 % (42)	47.37 % (54)	15.79 % (18)	2.21	0.697	1
Fabric 2C: Balanced plain weave – crinkled finish (n=114)	41.23 % (47)	32.46 % (37)	26.32 % (30)	2.15	0.812	2

The fabric with the slightly crinkled finish was assessed as the most comfortable, followed by the fabric with the more pronounced crinkle. The fabric seen as the least comfortable was the balanced plain weave lawn fabric that was also lighter in weight (Table XI b).

TABLE XI c: THE COMFORT RATING OF KNITTED FABRICS

Fabric type	Most comfortable	Comfortable	Least comfortable	Mean score	SD	Overall comfort
Fabric 3A: Double knit (n=112)	19.64 % (22)	47.32 % (53)	33.04 % (37)	1.87	0.717	2
Fabric 3B: Single jersey knit (n=115)	60.87 % (70)	21.74 % (25)	17.39 % (20)	2.43	0.774	1
Fabric 3C: Lacy knit (n=110)	20.91 % (23)	30.91 % (34)	48.18 % (53)	1.73	0.789	3

The single jersey knit was chosen as most comfortable knitted textile. This was the only cotton / Lycra blend; the other two fabrics were 100 % polyester fabrics. This might have been the reason for choosing the single jersey knit as most comfortable. Although the double knit was only slightly heavier than the single jersey, it was assessed as less comfortable (this could be due to knowledge or experience of the comfort properties of polyester and cotton fabrics, or that double knits are perceived as being warmer). The lacy knit was slightly lighter in weight, but looked bulkier and could therefore have been perceived as less comfortable (Table XI c).

In an open-ended question the respondents were asked to indicate what had helped them to decide which fabric in each set would be the most comfortable. 39 % said that they had used the fabric hand and feeling on the skin to determine comfort, while 18 % used the flexibility of the fabric to assess comfort. The visible texture was used by 14 % to assess comfort. Although not related to comfort, 12 % felt that fabric durability gave them an indication of comfort. To some appearance (6 %) and wrinkle resistance (4%) and even colourfastness (1%) indicated comfort. Only 1 % indicated that they used fibre content to assess comfort (this contradicts the results as discussed above).

Once again most respondents used tactile aspects to assess comfort. This also meant that special attention was given to descriptive explanations to describe comfort related aspects in the online guide. Care was taken to indicate which fibre and other properties would contribute to comfort properties.

➢ **Ease of care rating of the fabric samples**

TABLE XII a: THE EASE OF CARE RATING OF MEDIUM WEIGHT WOVEN FABRICS

Fabric type	Easy to care for	Moderately easy to care for	Least easy to care for	Mean score	SD	Overall comfort
Fabric 1A: Twill weave (n=112)	43.75 % (49)	29.46 % (33)	26.79 % (30)	2.17	0.826	1
Fabric 1B: Balanced plain weave (n=113)	26.55 % (30)	54.87 % (62)	18.58 % (21)	2.08	0.670	2
Fabric 1C: Uneven yarn thickness – plain weave (n=114)	31.58 % (36)	14.91 % (17)	53.51 % (61)	1.78	0.900	3

The twill weave was assessed to be slightly easier to care for than the balanced plain weave, while the fabric with the uneven yarn size was assessed as having the least easy-care properties (Table XII a).

TABLE XII b: THE EASE OF CARE RATING OF LIGHT WEIGHT WOVEN FABRICS

Fabric type	Easy to care for	Moderately easy to care for	Least easy to care for	Mean score	SD	Overall comfort
Fabric 2A: Balanced plain weave – lawn (n=111)	18.02 % (20)	21.62 % (24)	60.36 % (67)	1.58	0.781	3
Fabric 2B: Balanced plain weave – slightly crinkled finish (n=113)	24.78 % (28)	57.52 % (65)	17.70 % (20)	2.07	0.651	2
Fabric 2C: Balanced plain weave – crinkled finish (n=111)	59.46 % (66)	19.82 % (22)	20.72 % (23)	2.39	0.811	1

The two fabrics with the crinkled finish were assessed as having more easy-care properties than the smooth plain weave fabric. The fabric with the more pronounced crinkles was also chosen above the one with slightly less crinkles. As these crinkles would mask wrinkling, this result was expected (Table XII b).

TABLE XII c: THE EASE OF CARE RATING OF KNITTED FABRICS

Fabric type	Easy to care for	Moderately easy to care for	Least easy to care for	Mean score	SD	Overall comfort
Fabric 3A: Double knit (n=112)	45.54 % (51)	41.07 % (46)	13.39 % (15)	2.32	0.700	1
Fabric 3B: Single jersey knit (n=113)	19.47 % (22)	34.51 % (39)	46.02 % (52)	1.73	0.768	3
Fabric 3C: Lacy knit (n=114)	36.84 % (42)	23.68 % (27)	39.47 % (45)	1.97	0.877	2

The fact that the only cotton fabric was assessed to have the least easy-care properties indicates that respondents are probably aware of cotton's ability to crease (Table XII c). In an open-ended question the respondents were asked to indicate what had helped them to decide which fabric in each set would be the most easy to care for. The respondents seemed to use crease resistance as most indicative of ease of care (43 %). To 14 % the type of care procedure (i.e. being able to tumble dry the garment) indicated ease of care, while to 11 % little or no ironing indicated easy-care. Some (7%) used propensity to lose colour or stain (changes in appearance) as indicators. Only 7 % related ease of care to fibre content. A few (6 %) felt that "good quality" or durability would include easy-care properties. 5 % said that the hand of the fabric indicated ease of care (this could mean that they had crushed the fabric to test crease resistance!). Almost the same number of respondents (4 %) used changes in visible texture and shape retention as indicators.

Care was once again taken to relate ease of care properties to fibre and fabric properties in the online textile assessment guide.

➢ **End-use serviceability of the fabric samples**

To determine the reason for choosing specific fabrics for formal daywear and casual wear (end-use serviceability), two-way frequencies were used. The respondents were asked to choose one fabric from any of the three sample sets, which they would consider using for a suit (jacket and skirt or pants) for formal daywear (Section D: Q 4.1). They were then asked to give reasons for their choice.

As the respondents were asked to give two to three reasons for their choice of fabric for the specified end-use, the total number of responses for each fabric (row total) is indicated as well as the total number of responses for the different properties (column total) (Tables XIII a – e).

TABLE XIII a: MOST PREFERRED FABRIC FOR A SUIT (JACKET, SKIRT / PANTS) FOR FORMAL DAYWEAR AND REASONS FOR CHOICE

Frequency / Percentage	Comfort	Shape retention	Weave density	Easy-care	Appearance professional / neat	Crease resistance	Personal taste	Durability	Total of responses
Twill weave	8 / 5.26 %	6 / 3.39 %	13 / 8.55 %	5 / 3.29 %	22 / 14.47 %	18 / 11.84 %	1 / 0.66 %	28 / 18.42 %	101 / 66.45 %
Balanced Plain weave	3 / 1.97 %	3 / 1.97 %	8 / 5.26 %	2 / 1.32 %	8 / 5.26 %	8 / 5.26 %	0 / 0.00 %	11 / 7.24 %	43 / 28.29 %
Uneven plain weave	1 / 0.66 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	3 / 1.97 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	4 / 2.63 %
Slightly crinkled	1 / 0.66 %	0 / 0.00 %	1 / 0.66 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	2 / 1.32 %
Double knit	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	1 / 0.66 %	0 / 0.00 %	0 / 0.00 %	1 / 0.66 %
Lacy knit	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	1 / 0.66 %	0 / 0.00 %	0 / 0.00 %	1 / 0.66 %
Total	13 / 8.55 %	9 / 5.92 %	22 / 14.47 %	7 / 4.61 %	35 / 23.03 %	26 / 17.11 %	1 / 0.66 %	39 / 25.66 %	152 / 100 %

As can be seen from Table XIII a, six of the nine fabrics were chosen and the twill weave fabric seemed to be the most popular choice for a suit (jacket and skirt/pants) for formal daywear (101 of the 152 responses). Durability was the most cited reason (28 responses; 18 %) for the choice followed by appearance (described as professional or neat) (22 responses; 14 %). Another reason given for the choice was the fabric's crease resistance (18 responses; 12 %) and a smaller percentage (13 responses; 9 %) chose the fabric because of the sturdiness of the weave (density). Only eight respondents (5 %) chose the fabric because they expected it to be comfortable. Shape retention and easy-care properties were respectively used by six (3.4 %) and five (3.3 %) of the respondents. For all the fabrics chosen by the respondents, the same pattern emerged – 39 (26 %) of the respondents chose the fabric they preferred because they thought it was the most durable; 35 respondents (23 %) chose their preferred fabric because

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the appearance was professional and neat; while 26 (17 %) chose their preferred fabric because it was assessed to be crease resistant and 22 (14 %) used fabric density (count) when choosing a fabric for a formal daywear suit. A smaller number of respondents (13; 9 %) felt the fabric they had chosen would be the most comfortable, nine (6 %) chose the fabric that they thought would retain its shape the best, and seven (5 %) of the respondents felt that the fabric of their choice would have easy-care properties. One respondent (<1%) said she chose the fabric because of personal taste.

The respondents were also asked to choose one fabric from any of the three sample sets, which they would consider using for a blouse, shirt, or top for formal daywear (Section D: Q 4.2). They were then asked to give reasons for their choice (Table XIII b). Eight of the nine fabrics were chosen for a blouse, shirt or top for formal daywear.

TABLE XIII b: MOST PREFERRED FABRIC FOR A BLOUSE, SHIRT OR TOP FOR FORMAL DAYWEAR AND REASONS FOR CHOICE

Frequency / Percentage	Comfort	Shape retention	Weave / knit density	Easy-care	Appear-ance	Crease resis-tance	Personal taste	Flexible	Durabi-lity	Total of responses
Twill weave	0 / 0.00 %	0 / 0.00 %	1 / 0.59 %	0 / 0.00 %	0 / 0.00 %	1 / 0.59 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	2 / 1.18 %
Balanced Plain weave	0 / 0.00 %	0 / 0.00 %	1 / 0.59 %	1 / 0.59 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	2 / 1.18 %
Light weight plain weave	10 / 5.92 %	0 / 0.00 %	3 / 1.78 %	2 / 1.18 %	7 / 4.14 %	4 / 2.37 %	0 / 0.00 %	0 / 0.00 %	1 / 0.59 %	27 / 15.98 %
Slightly crinkled	31 / 18.34 %	1 / 0.59 %	21 / 12.43 %	3 / 1.78 %	11 / 6.51 %	12 / 7.10 %	0 / 0.00 %	1 / 0.59 %	2 / 1.18 %	82 / 48.52 %
Crinkled finish	13 / 7.69 %	2 / 1.18 %	8 / 4.73 %	4 / 2.37 %	11 / 6.51 %	6 / 3.55 %	1 / 0.59 %	1 / 0.59 %	2 / 1.18 %	48 / 28.40 %
Double knit	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	1 / 0.59 %	0 / 0.00 %	1 / 0.59 %	0 / 0.00 %	2 / 1.18 %
Plain jersey knit	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	1 / 0.59 %	0 / 0.00 %	1 / 0.59 %
Lacy knit	1 / 0.59 %	0 / 0.00 %	1 / 0.59 %	0 / 0.00 %	2 / 1.18 %	1 / 0.59 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	5 / 2.96 %
Total	55 / 32.54 %	3 / 1.78 %	35 / 20.71 %	10 / 5.92 %	11 / 18.34 %	25 / 14.79 %	1 / 0.59 %	4 / 2.37 %	5 / 2.96 %	169 / 100 %

For formal blouses, shirts or tops the respondents preferred the light- weight woven fabric with a slightly crinkled finish (82 of 169 responses; 49 %) followed by the lightweight woven fabric with the more pronounced crinkle finish (48 responses; 28 %). The third choice was the lightweight plain weave fabric (27 responses; 16 %). A few respondents chose the lacy knit (5 responses; 3 %), the medium weight twill weave, the medium weight balanced plain weave and the double knit (1 %), were only chosen by two respondents each. Only one respondent (< 1%) chose the single jersey knit (Table XIII b). The main reason for choosing the slightly crinkled fabric was because the respondents (31; 18 %) thought it would be the most comfortable. The other most cited reason was weave density (21; 12 %), which is also related to comfort. Twelve of the respondents (7 %) chose this fabric because of its crease resistance and 11 (6.5 %) because they thought it had a neat appearance. Three respondents (2 %) chose the fabric because they thought it would have easy-care properties and two (1%) because it seemed to be durable. Only one respondent (<1 %) chose the fabric because it was expected to have a good shape retention and flexibility (Table XIII b).

Overall the most common reason cited for the preferred choice was comfort (55 responses; 33 %), followed by density (35 responses; 21 %) and appearance (31 responses; 18 %). Crease resistance (25 responses; 15 %) was also a reason given for making a specific choice. A few respondents (10 responses; 6 %) chose the preferred fabric because of crease resistance. Durability (5 responses; 3 %), flexibility (4 responses; 2 %) and shape retention (3 responses; 2 %) seemed to be less important when choosing a blouse fabric for formal daywear (Table XIII b).

The respondents were asked to choose one fabric from any of the three sample sets, which they would consider using for a skirt or pair of slacks for casual wear (Section D: Q 4.3). They were then asked to give reasons for their choice (Table XIII c).

As indicated in Table XIII c, seven of the nine fabrics were chosen for skirts or slacks for casual daywear.

TABLE XIII c: MOST PREFERRED FABRIC FOR A SKIRT OR SLACKS FOR CASUAL WEAR AND REASONS FOR CHOICE

Frequency / Percentage	Comfort	Shape retention	Weave / knit density	Easy-care	Appear-ance:	Crease resis-tance	Personal taste	Flexible	Durabi-lity	Total of responses
Twill weave	6 / 4.20 %	1 / 0.70 %	5 / 3.50 %	1 / 0.70 %	9 / 6.29 %	2 / 1.40 %	0 / 0.00 %	0 / 0.00 %	6 / 4.20 %	30 / 20.98 %
Balanced Plain weave	7 / 4.90 %	1 / 0.70 %	2 / 1.40 %	3 / 2.10 %	9 / 6.29 %	5 / 3.50 %	1 / 0.70 %	0 / 0.00 %	3 / 2.10 %	31 / 21.68 %
Plain weave uneven yarns	1 / 0.70 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	1 / 0.70 %	3 / 2.10 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	5 / 3.50 %
Slightly crinkled	7 / 4.90 %	0 / 0.00 %	3 / 2.10 %	2 / 1.40 %	0 / 0.00 %	4 / 2.80 %	0 / 0.00 %	0 / 0.00 %	1 / 0.70 %	17 / 11.89 %
Crinkled finish	7 / 4.90 %	0 / 0.00 %	1 / 0.70 %	1 / 0.70 %	4 / 2.80 %	2 / 1.40 %	1 / 0.70 %	3 / 2.10 %	0 / 0.00 %	19 / 13.29 %
Double knit	6 / 4.20 %	3 / 2.10 %	5 / 3.50 %	1 / 0.70 %	1 / 0.70 %	1 / 0.70 %	1 / 0.70 %	12 / 8.39 %	1 / 0.70 %	31 / 21.68 %
Plain jersey knit	4 / 2.80 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	1 / 0.70 %	0 / 0.00 %	1 / 0.70 %	4 / 2.80 %	0 / 0.00 %	10 / 6.99 %
Total	38 / 26.57 %	5 / 3.50 %	16 / 11.19 %	8 / 5.59 %	25 / 17.48 %	17 / 11.89 %	4 / 2.80 %	19 / 13.29 %	11 / 7.69 %	143 / 100 %

Here two fabrics, the medium weight balanced plain weave and the double knit fabric, were indicated as most popular fabrics for casual skirts or slacks. In both cases 31 (22 %) of the respondents chose one of the two fabrics. The most common reasons for choosing the medium weight balanced plain weave were its neat appearance (9 responses; 6 %), comfort (7 responses; 5 %), and crease resistance (5 responses; 4 %), while flexibility (12 responses; 8 %), comfort (7 responses; 5 %) and density (5 responses; 4 %) were the most common reasons for choosing the double knit. The twill weave fabric was the next most popular fabric (30 responses; 21 %), the main reasons being its neat appearance (9 responses; 6 %), comfort (6 responses; 4 %), durability (6 respondents; 4 %) and weave density (5 responses; 4 %). The lightweight plain weave with the more pronounced crinkle finish was chosen by 19 (13 %) of the respondents for casual skirts or pants, because they judged it as being a comfortable fabric (7 responses; 5 %). The lightweight fabric with the slightly crinkled appearance was chosen by 17 (12 %) of the respondents for the same reason (7 responses; 5 %). Ten responses (7 %) opted for the single jersey knit fabric, the main reasons

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being its comfort (4 responses; 3 %) and flexibility (4 responses; 3 %). A few respondents (5 responses; 4 %) chose the uneven yarn medium weight plain weave as the preferred fabric for casual skirts or pants mainly because of its crease resistance (3 responses; 2 %). The overall most popular reason given for the choice of fabric for casual skirts or slacks was comfort (38 responses; 27 %), followed by appearance (25 responses; 17 %) and flexibility (19 responses; 13 %). Crease resistance (17 responses; 12 %) and weave/ knit density (16 responses; 11 %) were more or less equally important when deciding on a fabric for a casual skirt or pair of slacks. Durability (11 responses; 8 %) and easy-care properties (8 responses; 6 %), and shape retention (5 responses; 4 %) seem to be less important features when choosing fabric for casual skirts and slacks. Four respondents (3 %) said the fabric of preference was chosen because of personal taste (Table XIII c).

TABLE XIII d: MOST PREFERRED FABRIC FOR A BLOUSE, SHIRT OR TOP FOR CASUAL WEAR AND REASONS FOR CHOICE

Frequency Percentage	Comfort	Shape retention	Weave / knit density	Easy-care	Appear-ance	Crease resist-ance	Personal taste	Flexible	Durability	Total of responses
Balanced Plain weave	1 0.70 %	0 0.00 %	0 0.00 %	1 0.70 %	0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %	0 0.00 %	2 1.40 %
Light weight plain weave	5 3.50 %	0 0.00 %	1 0.70 %	1 0.70 %	1 0.70 %	1 0.70 %	0 0.00 %	0 0.00 %	0 0.00 %	9 6.29 %
Slightly crinkled	8 5.59 %	0 0.00 %	2 1.40 %	3 2.10 %	3 2.10 %	1 0.70 %	0 0.00 %	0 0.00 %	0 0.00 %	17 11.89 %
Crinkled finish	16 11.19 %	1 0.70 %	7 4.90 %	5 3.50 %	7 4.90 %	7 4.90 %	1 0.70 %	0 0.00 %	0 0.00 %	44 30.77 %
Double knit	3 2.10 %	1 0.70 %	1 0.70 %	1 0.70 %	0 0.00 %	0 0.00 %	0 0.00 %	1 0.70 %	1 0.70 %	8 5.59 %
Single jersey knit	24 16.78 %	0 0.00 %	4 2.80 %	0 0.00 %	0 0.00 %	2 1.40 %	1 0.70 %	16 11.19 %	0 0.00 %	47 32.87 %
Lacy knit	7 4.90 %	0 0.00 %	1 0.70 %	3 2.10 %	2 1.40 %	1 0.70 %	0 0.00 %	2 1.40 %	0 0.00 %	16 11.19 %
Total	64 44.76 %	2 1.40 %	16 11.19 %	14 9.97 %	13 9.09 %	12 8.39 %	2 1.40 %	19 13.29 %	1 0.70 %	143 100 %

The respondents were asked to choose one fabric from any of the three sample sets, which they would consider using for a top for casual wear (Section D: Q 4.4). They were then asked to give reasons for their choice.

Once again seven of the nine fabrics were chosen for a blouse, shirt or top for casual daywear.

The most preferred fabric for casual wear tops was the single jersey knit (popularly known as T-shirt material) (Table XIII d). This fabric was chosen by 47 (33 %) of the participants. The most popular reason for this choice was comfort (24 responses; 17 %), followed by flexibility (16 responses; 11 %) that also contributes to comfort. The lightweight plain-weave fabric with the more pronounced crinkled finish was the second most popular choice for casual tops (44 responses; 31 %), with comfort also given as the main reason for the choice (16 responses; 11 %). The lightweight plain weave fabric with the slightly crinkled look was chosen by 17 (12 %) of the respondents and the lacy knit by 16 (11 %). Once again the main reason for these choices was comfort (respectively 8 responses; 6 % and 7 responses; 5 %). A few respondents (9 responses; 6 %) chose the smooth lightweight plain weave fabric and 8 (6 %) the double knit. Only two respondents (<1 %) chose the medium weight balanced plain weave for this end-use (Table XIII d).

The overall most common reason given for the preferred fabric choice was comfort (64 respondents; 45 %). Flexibility (19 respondents; 13 %) and weave or knit density (16 respondents; 11 %), both properties related to comfort, were the second and third most often mentioned reason for the preference. Other reasons given for the preferred choices were easy-care properties (14 respondents; 10 %), fashionable appearance (13 respondents; 9 %) and crease resistance (12 respondents; 8 %). Shape retention (2 respondents; 1 %), personal taste (2 respondents; 1%) and durability (1 respondent; < 1 %), were other reasons mentioned for the preferred fabric choice.

The respondents were also asked to choose one fabric from any of the three sample sets, which they would consider using for a jacket for casual wear (Section D: Q 4.5). They were then asked to give reasons for their choice. In total fewer responses (122) were received.

As indicated in Table XIII e the respondents chose eight of the nine fabrics, but the double knit seemed to be the most popular choice (35 responses; 29 %), followed closely by the medium weight balanced plain weave fabric (27 responses; 22 %) and the twill weave fabric (25 responses; 20 %). These choices were followed by the medium weight uneven plain weave fabric and the single jersey knit fabric were chosen by an equal number of respondents (10 responses; 8 %), and the lightweight plain weave fabric with the slightly crinkled finish chosen by nine respondents (7 %). A few respondents chose the more crinkled lightweight plain weave fabric (4 responses; 3 %) and only two respondents (<2 %) thought that the lacy knit was an appropriate choice.

TABLE XIII e: MOST PREFERRED FABRIC FOR A JACKET FOR CASUAL WEAR AND REASONS FOR CHOICE

Frequency / Percentage	Comfort	Shape retention	Weave / knit density	Easy-care	Appear-ance	Crease resist-ance	Personal taste	Flexible	Durability	Total of responses
Twill weave	3 / 2.46 %	0 / 0.00 %	6 / 4.92 %	1 / 0.82 %	9 / 7.38 %	2 / 1.64 %	0 / 0.00 %	1 / 0.82 %	3 / 2.46 %	25 / 20.49 %
Balanced plain weave	4 / 3.28 %	0 / 0.00 %	3 / 2.46 %	5 / 4.10 %	9 / 7.38 %	3 / 2.46 %	0 / 0.00 %	0 / 0.00 %	3 / 2.46 %	27 / 22.13 %
Uneven yarn plain weave	1 / 0.82 %	1 / 0.82 %	0 / 0.00 %	2 / 1.64 %	3 / 2.46 %	1 / 0.82 %	2 / 1.64 %	0 / 0.00 %	0 / 0.00 %	10 / 8.20 %
Slightly crinkled	4 / 3.28 %	0 / 0.00 %	4 / 3.28 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	1 / 0.82 %	9 / 7.38 %
Crinkled finish	1 / 0.82 %	0 / 0.00 %	1 / 0.82 %	1 / 0.82 %	1 / 0.82 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	4 / 3.28 %
Double knit	8 / 6.56 %	1 / 0.82 %	5 / 4.10 %	0 / 0.00 %	3 / 2.46 %	1 / 0.82 %	0 / 0.00 %	15 / 12.30 %	2 / 1.64 %	35 / 28.69 %
Single jersey knit	5 / 4.10 %	0 / 0.00 %	0 / 0.00 %	1 / 0.82 %	0 / 0.00 %	2 / 1.64 %	1 / 0.82 %	1 / 0.82 %	0 / 0.00 %	10 / 8.20 %
Lacy knit	1 / 0.82 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	1 / 0.82 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	0 / 0.00 %	2 / 1.64 %
Total	27 / 22.13 %	2 / 1.64 %	19 / 15.57 %	10 / 8.20 %	26 / 21.31 %	9 / 7.38 %	3 / 2.46 %	17 / 13.93 %	9 / 7.38 %	122 / 100 %

The overall most common reason cited for the preferred choice was comfort (27 responses; 22 %), closely followed by the neat and fashionable appearance (26 responses; 21 %). In the case of the double knit, comfort (8 respondents; 7 %) and comfort related properties (flexibility; 15 responses; 12 % and density, 5 responses; 4 %) were listed as those properties that influenced the choice, while in the case of the two more popular medium

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weight plain and twill weaves, neatness of appearance was the main reason for the choice (9 responses; 7% in both cases). The third and fourth most often mentioned reasons that influenced the preferred choice of all the respondents were weave or knit density (19 responses; 16 %) and flexibility (17 responses; 14 %) – properties both related to comfort.

Overall easy-care was only used by 10 (8 %) of all the respondents when choosing a fabric for casual wear jackets. Crease recovery (related to easy-care) and durability are apparently not considered very often [each by only 9 (7 %) of the respondents] when deciding on a fabric for casual wear jackets. Three respondents (2.5 %) said that the fabric choice was because of "personal taste", and only two respondents (< 2 %) considered shape retention when choosing a fabric for this end-use.

All these aspects on end-use serviceability were included to determine if and how the consumer relates end-use serviceability with fabric properties. The responses were also compared to the initial responses (Tables VI a & VI b and Figures 6 & 7) to determine which cues were used as quality indicators for both formal and casual daywear. This information was used when choosing the styles and fabrics for the on-line guide.

4.2.1.2   The importance of label information

- **The frequency of label use when making purchase decisions (Sub-objective 1.2.1)**

Respondents were asked how often they read labels that are attached to garments (Table XIV).

TABLE XIV: THE FREQUENCY WITH WHICH LABEL INFORMATION IS USED

Number of respondents	Frequency n=116
Always	31
Often	59
Seldom	25
Never	1

The respondents who always or often read labels were asked to complete five more questions relating to label-information.

- **The type of label information used when making purchase decisions (Sub-objective 1.2.2)**

The questions were used to determine what type of label information these respondents use when making purchase decisions. Here extrinsic aspects were also included (this information was also used in the designing of the mock web-site for phase three of the study).

As explained in Chapter 3, only the respondents who 'always' or 'often' read care labels when buying garments, were asked to complete the questions on label information. A total of 90 respondents answered these questions. Here the Z-values (normal distribution) were also used. The critical Z-value was determined to be 1.645; if the Z-value exceeded 1.645 (was > 1.645) the null hypothesis (H_0) was rejected.

The following formula was used to determine the Z-value of each variable where applicable:

$$Z = \frac{P - \pi_0}{\sqrt{\dfrac{\pi_0(1 - \pi_0)}{n}}}$$

where $P = \dfrac{X}{n}$

and X = the number of respondents who chose 'always' or 'very important'

     n = total number of respondents (only respondents who always or usually consult labels were asked to complete a set of questions; in which case n = 90 respondents).

On a 5 % level of significance X (number of respondents who chose 'very important' or 'important') was calculated to be 52.80, which means that

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if 53 or more respondents (n = 90) always viewed the option as 'very important' and 'important', the null hypothesis (H_0: $\pi_0 = 0.5$) was rejected.

TABLE XV a: THE IMPORTANCE OF DIFFERENT TYPES OF LABEL INFORMATION WHEN PURCHASING FORMAL DAY OR OFFICE WEAR

Type of label information	Very important (n=90)	Important (n=90)	Slightly important (n=90)	Not important (n=90)	Mean score	SD	Overall impor-tance	H_0 rejected: 5% level of significance
Fibre content	19	37	25	9	2.73	0.909	4	✓
Brand name	2	21	44	23	2.02	0.764	6	x
Care instructions	59	26	5	0	3.60	0.596	2	✓
Additional information	14	35	36	5	2.64	0.812	5	x
Price	46	43	1	0	3.50	0.595	3	✓
Size	66	19	3	1	3.69	0.595	1	✓
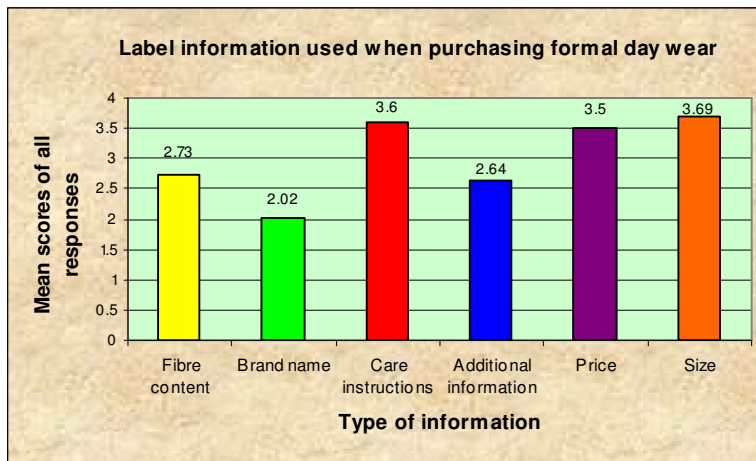
FIGURE 14: IMPORTANCE OF LABEL INFORMATION WHEN PURCHASING FORMAL DAYWEAR

If the responses to 'very important and 'important' are grouped together, the results indicate that price is seen as the most important aspect when purchasing garments for formal daywear (89 of the 90 respondents). This is followed by size and care instructions (85 respondents in both cases). When the mean scores of all responses are viewed, size seems to be the most important type of label information used by all respondents (3.69) (Table XV a and Figure 14). This is a logic response, as one would usually want to know if the garment was available in the correct size. The mean scores indicate that information about sizing is very important, but that care instructions (3.60) rate higher than price (3.50). Fibre content was seen as 'very important' or 'important' by 56 respondents. Additional fabric or garment

information was not as important to the respondents (49) as size, care instructions, price, and fibre content. In comparison with other label information brand name seems to be far less important for this sample than other label information (only 23 respondents thought that this was 'very important' or 'important', while 67 said it was 'slightly important' or 'not important').

The null hypothesis was rejected in the case of price, size, care instructions and fibre content, as more than 53 respondents rated these aspects as 'very important' or 'important'(Table XV a). Of the intrinsic factors care instructions (85 respondents) were considered more important than fibre content (56 respondents). This indicates that these aspects should be included in the textile guide as consumers would look for these aspects to help them with their decision-making.

TABLE XV b: THE IMPORTANCE OF DIFFERENT TYPES OF LABEL INFORMATION WHEN PURCHASING CASUAL WEAR

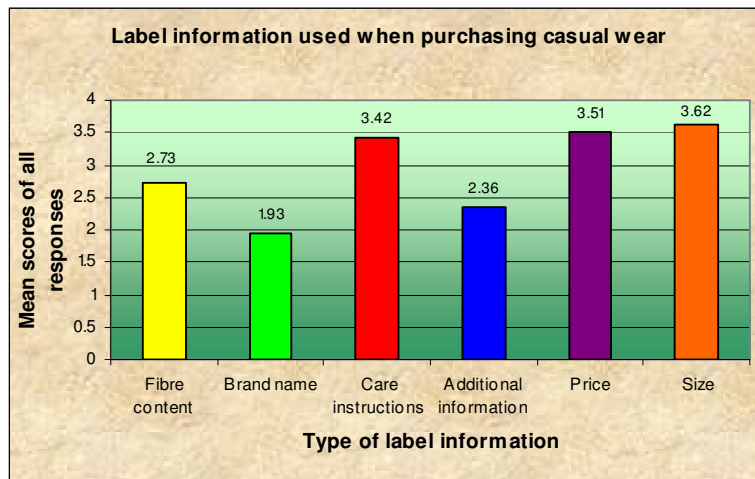| Type of label information	Very important (n=90)	Important (n=90)	Slightly important (n=90)	Not important (n=90)	Mean score	SD	Overall impor-tance	H₀ rejected: 5% level of significance
Fibre content	19	34	31	6	2.73	0.872	4	✓
Brand name	1	23	35	31	1.93	0.804	6	x
Care instructions	48	33	8	1	3.42	0.703	3	✓
Additional information	5	31	45	9	2.36	0.739	5	x
Price	49	38	3	0	3.51	0.566	2	✓
Size	61	23	4	1	3.62	0.631	1	✓

FIGURE 15: IMPORTANCE OF LABEL INFORMATION WHEN PURCHASING CASUAL DAYWEAR

For casual wear, the results were slightly different (Table XV b & Figure 15). Price was also the most important label information (87 respondents). Once again size seemed to be slightly more important (84 respondents) than care instructions (81 respondents). Fibre content (53 respondents) was less important, followed by additional garment information (36 respondents) and brand name (24 respondents).

The null hypothesis was once again rejected in the case of price, size, care instructions and fibre content as more than 53 respondents rated these aspects as 'very important' or 'important'. Fibre content was the least important of these aspects (53 respondents). (All hypotheses were tested on a 5 % level of significance).

The consumers were given the opportunity to specify which other label information they would find useful - only seven (6 %) of the respondents responded to this question. The other information they would like to find on labels was information on colourfastness (3 respondents), more information on finishes (2 respondents), and country of origin (1 respondent). One respondent mentioned fibre content (which is usually on garment labels in South Africa, but seldom on piece goods).

TABLE XV c: THE IMPORTANCE OF FIBRE CONTENT TO CONSUMERS

Should fibre content be indicated on labels?	Frequency (n=90)	Responses %
Yes fibre content is necessary	42	46.67
It makes no difference	43	48.78
No, it does not mean anything to me	5	5.56

The 42 respondents (47 %) with a "yes" response were asked, in an open-ended question, why it was important for them to know the fibre content (Table XV c). They could give two reasons. A variety of reasons were given why fibre content is required. Consumers use fibre content to determine care procedures, durability, comfort, and to a lesser extent appearance. (These aspects all relate to performance features of textiles). Other aspects that consumers relate to fibre content are value for money and the specific

occasion for which the garment is being bought. One respondent is allergic to certain synthetic fibres and therefore interested to know what the fibre content is, another admitted that her interest was purely based on curiosity.

4.2.2 Consumers' experience with and willingness to participate in distance shopping (Important for Objective 2)

The first four questions were Yes/ No questions to determine if the respondents had already bought apparel from catalogues or the Internet. Only five respondents (4 %) had bought apparel from catalogues and no one had purchased any apparel through the Internet yet. Only ten of the respondents (9 %) said that they would consider buying apparel from the Internet. Twelve respondents (10 %) said that they used different criteria to assess a garment offered in a catalogue to one bought in a shop. Five of the respondents who answered this question would like more written (label) information. Four respondents wanted to touch and three to try on the garments before making a decision. When asked about problems they had with distance shopping, five respondents were worried that their expectations would not be met. One respondent was worried that the product would differ from the catalogue picture, two were unsure of the return policy, and three respondents were uncertain if standard sizing was used.

Nineteen of the seventy-four respondents (26 %) who answered the question (Sec B: Q7) said that they would consider doing distance shopping if provided with more product information.

The following table (Table XVI) indicates what product information the respondents would find helpful. (Only 62 of the 74 respondents supplied this information).

TABLE XVI: PRODUCT INFORMATION THAT WOULD INDUCE CONSUMERS TO DO DISTANCE SHOPPING

Type of information	Extre-mely helpful (n=62)	Helpful (n=62)	Mode-rately helpful (n=62)	Not neces-sary (n=62)	Mean score	SD	Overall impor-tance	H_0 rejected on 5% level of significance
Fibres and their properties	17	26	15	4	3.15	0.882	3	✓
The effect the yarns can have on fabric properties	3	23	13	23	2.10	0.970	5	x
Fabric performance during use	27	24	9	2	3.23	0.818	2	✓
Fabric performance during fabric care	33	21	7	1	3.39	0.754	1	✓
The effect special finishes have on fabric properties and performance	16	27	14	5	2.87	0.896	4	✓
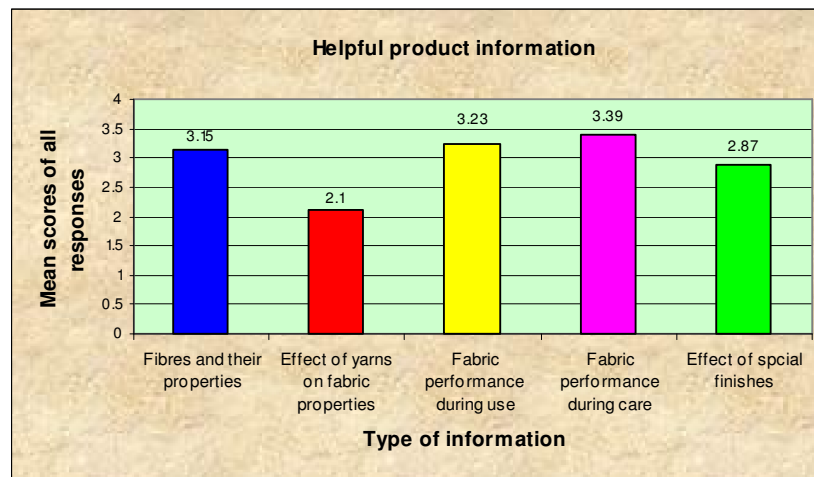
FIGURE 16: HELPFUL INFORMATION FOR DISTANCE SHOPPERS

From these results it is clear that consumers need more information on fabric performance during care and use; of all the respondents 54 would find information on fabric performance during care and 51 information on fabric performance during use 'extremely helpful' or 'helpful' (Table XVI & Figure 15). They would also find more information on fibre properties and the effect of special finishes on fabrics and their performance (43 respondents in both cases), 'extremely helpful' or 'helpful'. The respondents were not really interested to know what effect yarns can have on fabric properties (only 26 respondents thought this information would be 'extremely helpful' or 'helpful'). Only six respondents (5 %) listed other information they would find helpful in an open-ended question. Five of the six would like uniform sizing of garments, two would like all garment labels to indicate fibre content, one

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would like information regarding durability ("how long it would last") and one would like to visualise the drape ability of the fabric.

Here the Z-values (normal distribution) were once again used. The critical Z-value was determined to be 1.645; if the Z-value exceeded 1.645 (was > 1.645) the null hypothesis (H_0) was rejected.

The following formula was used to determine the Z-value:

$$Z = \frac{P - \pi_0}{\sqrt{\dfrac{\pi_0(1 - \pi_0)}{n}}}$$

where $P = \dfrac{X}{n}$

and X = the number of respondents who chose 'extremely' or 'helpful'

    n = total number of respondents (who answered the question, in which case n = 62 respondents).

On a 5 % level of significance X (number of respondents who chose 'extremely helpful' or 'very helpful') was calculated to be 37.48, which means that, the null hypothesis (H_0: π_0 = 0.5) was rejected if 38 or more respondents thought that the product information would be 'extremely helpful' or 'helpful'. Once again the hypotheses were tested on a 5 % level of significance. In all the cases, except one, the null hypothesis was rejected in favour of the alternative hypothesis. As indicated, only 26 respondents thought that information on how yarn type can affect fabric properties would be 'extremely helpful' or 'helpful' when purchasing garments. These results therefore indicate that consumers would like more information on fibres and their properties, fabric performance during use and care, and the effect of special finishes on fabric properties and performance.

Cronbach's Alpha coefficient was once again used to measure the internal consistency of the responses to the type of information consumers would like to find on labels or on a website. In this case the alpha value was 0.80 which

indicates a good internal consistency (an alpha value of $P \geq 0.80$ is a good measure of consistency) (Watson & Klassen, 2004).

4.2.3 Other information obtained from the questionnaire

TABLE XVII a: PRICE RANGES RESPONDENTS WERE WILLING TO PAY FOR FORMAL DAY OR OFFICE WEAR

Garment	< R 500	R 500 - 799	R 800- 1000	> R 1000
Three piece suit	11.21 % (13)	46.55 % (54)	31.03 % (36)	11.21 % (13)
Tailored jacket	11.30 % (13)	43.48 % (50)	30.43 % (35)	14.78 % (17)
Skirt/pants	8.62 % (10)	38.79 % (45)	37.93 % (44)	14.66 % (17)
Blouse/ shirt/ top	5.17 % (6)	43.97 % (51)	38.79 % (45)	12.07 % (14)

It seems that most of the respondents would be willing to pay between R 500 and R 1 000 (± US $ 70 - $ 140) for any of the apparel items mentioned. The lower end of this range (R 500 – 799) (± US $ 70 - $ 114) seemed to be the most popular price class for all the garments. (The frequencies are indicated in brackets; one respondent mentioned that she did not buy tailored jackets separately).

TABLE XVII b: PRICE RANGES RESPONDENTS WERE WILLING TO PAY FOR CASUAL WEAR

Garment	< R 200	R 200 - 299	R 300- 500	> R 500
Jacket	23.28 % (27)	40.52 % (47)	31.03 % (36)	5.17 % (6)
Skirt/pants	12.07 % (14)	41.38 % (48)	35.34 % (41)	11.21 % (13)
Blouse/ shirt/ top	16.23 % (19)	47.41 % (55)	28.45 % (33)	7.76 % (9)
T-shirt	23.48 % (27)	54.78 % (63)	20.00 % (23)	1.74 % (2)

Once again, the two middle price ranges (R 200 – 500; ± US $ 25 - $ 65) were the prices respondents were more willing to pay. The lower end of the range (R 200 – 299: ± US $ 25 - $ 40) seemed to be the most preferred price range for casual daywear apparel items. (The frequencies are indicated in brackets; one respondent mentioned that she hates T-shirts and never buys them).

It is evident that most respondents are willing to pay reasonably high prices for both formal and casual daywear garments. When referring to the results indicated in Table V (beginning of this chapter), most respondents cited price as the most important indicator of quality.

When designing the web page, it was decided not to use this information, as price (an extrinsic factor) was not an aspect included in this study. Another reason for excluding price was that indicating price might once again influence the respondents' choice and be linked to quality when using the web page.

4.3   INTERPRETATION OF THE RESULTS OF THE FIRST PHASE OF THE STUDY

4.3.1 Introduction

The objective of the first phase of the study was to determine which quality cues are used by adult career women when purchasing garments for formal day or office wear and casual daywear. To obtain this information questions were asked to determine if adult female consumers use the formal, physical features of textiles (i.e. fibre, yarn, fabric structure and finish) in their assessment of textile quality. Questions were also posed to obtain information on their ability to relate the formal physical features of textiles to performance properties such as durability, comfort and ease of care. The respondents also assessed three sets of samples to indicate their ability to relate formal physical features of textiles to expected end-use performance. They were also asked to indicate their use of label information when purchasing garments for formal and casual daywear. These results were used to develop an online textile quality assessment guide and a mock web page as well as a questionnaire to assess the information included in the guide.

The results of the research are interpreted in this chapter to indicate which quality cues are used by career women when purchasing garments for formal and casual daywear. The sub-objectives for the first phase of the study are used as guideline for the interpretation. The results are also compared to those of other researchers and authors as discussed in Chapter 2.

The following aspects will be covered in the interpretation of the results:

- The formal physical features that adult career women use in their assessment of apparel textile quality when purchasing formal and casual daywear (Sub-objective 1)
- The relatedness of formal, physical features of textiles (durability, comfort and ease of care) and functional performance aspects when assessing quality (Sub-objective 1.1.1 – 1.1.3)
- Respondents' assessment of fabrics for end-use serviceability (Sub-objective 1.1.4)
- The frequency of use and type of label information used when making purchase decisions (Sub-objective 1.2.1 & 1.2.2)

4.3.2 The formal physical features that adult career women use in their assessment of apparel textile quality when purchasing formal and casual daywear (Sub-objective 1)

From the results it is clear that price (an extrinsic factor) is used by a statistically significant number of respondents as indicator of quality. This result is in accordance with findings by Eckman *et al*. (1990) and Swinker & Hines (2006) that price is often used as a quality cue, but also depends on which other extrinsic and intrinsic cues are available when the consumer is making a purchase decision.

The intrinsic factors used as important indicators of quality by most respondents are the suitability of the fabric for the end-use, the specified care procedure, type of fabric finish, fabric texture, and, to lesser extent, attention

to detail. Intrinsic cues relating to fabric quality assessment were also identified in other studies (Eckman *et al.,* 1990; Abraham-Murali & Littrell, 1995a; Brown & Rice, 1998: 44; Jacobs, 2003: 138, 146-8; Swinker & Hines, 2006).

When looking at the overall importance of the different aspects used as quality indicators all the listed aspects are, to a certain extent, used by the respondents. In this study all the intrinsic indicators, with the exception of fabric structure were judged to be 'very important' or 'important' by a statistically significant majority of respondents when assessing quality during the buying process.

In the South African context this could be an important result. Although consumers use these indicators very little information pertaining to textiles and their properties is generally supplied to consumers. This is an important aspect to bring to the attention of retailers and marketers of apparel products. The lack of information, however, seems to be more universal as Chen-Yu, Hong and Lee (2001) express the same concern.

By paying attention to the inclusion of all the listed intrinsic aspects in consumer guide, the consumer (in this case, the online consumer) could be equipped to make better decisions concerning fabric quality during the buying process. Aspects relating the cues used by the respondents (Table V and Figure 5) as well as aspects relating to durability, comfort, ease of care and end-use serviceability were therefore all included in the guide (Tables VI a & VI b through to Table IX a &b and Figure 6 through to Figure 13).

4.3.2.1   The relatedness of formal, physical features of textiles and performance aspects when assessing quality (Sub-objective 1.1)

The mean scores of all responses were calculated. For formal office/ daywear the appearance was rated the most important property when purchasing garments (Table VI a and Figure 6). In the open-ended question,

as well as in the fabric assessment (Section D), some respondents said they would choose a specific fabric because "it looks professional or stylish". Individuals interviewed by Jacobs (2003: 138, 140, 147) and Lubbe (2003:100) confirm the importance of a neat professional appearance for office or formal daywear.

As expected, the rating for 'comfort' was the highest for casual wear (Table VI b and Figure 7). Jacobs (2003: 146) and Zhang *et.al.*(2002) confirm these results.

These aspects were all considered when designing the website and guide. Care was taken to choose both formal and casual images of garments and descriptions pertaining to appearance, comfort, durability and performance were included in the guide.

- **Do consumers relate the formal features of textiles to the functional performance aspect of durability? (Sub-objective 1.1.1)**

As indicated by the results, a statistically significant majority of respondents used abrasion resistance, elastic recovery and the fabric's snagging propensity as indicators of fabric durability when purchasing formal office or daywear (Table VII a and Figure 8). In the studies done by Abraham-Murali and Littrell (1995a), Jacobs (2003: 139) and Hines and Swinker (2006) respondents also used these performance characteristics when making purchase decisions.

In comparison with these three indicators far less, but still a statistically significant number of respondents used closeness of weave or knit and fabric fineness (fabric count or gauge) as durability indicators. Thickness of yarn was the only indicator that was not   used by a statistically significant number of respondents as durability indicator (Table VII a & Figure 8).

For casual daywear the results follow more or less the same pattern, but here both fabric fineness and yarn thickness were not used by a statistically

significant majority of respondents to assess durability (Table VII b and Figure 9).

As only two of the durability indicators are not commonly used to assess durability, it is essential to include all these aspects in a consumer guide as consumers would look for these indicators in a guide to help them with their online decision-making.

- **Do consumers relate the formal features of textiles to the functional performance aspect of comfort? (Sub-objective 1.1.2)**

When assessing comfort during the purchase of office or formal daywear only one of the comfort indicators, openness of weave or knit, was not used by a statistically significant majority (Table VIII a and Figure 10). Coolness on skin, softness and lightweight seemed to be used most often as comfort indicators. Zhang *et al.* (2002), Jacobs (2003: 167) and De Klerk and Lubbe (2007) also found that these aspects were used as indicators of comfort.

Slightly fewer respondents (but still a statistically significant majority) used the fabric's flexibility and absorbency as indicators of comfort.

The same pattern emerged for casual daywear. The only comfort indicator that was not used by a statistically significant majority of respondents was once again 'openness of weave or knit' (Table VIII b and Figure 11). The same number of respondents used 'coolness on skin' as indicator when purchasing casual daywear. Here the second largest number of respondents used absorbency as indicator, followed by fabric weight, flexibility and softness and smoothness of the fabric. Once again the openness of weave or knit was seen as the least important indicator of comfort.

The responses indicate that it is necessary to include all these indicators related to comfort in a quality assessment guide. In the guide comfort was related to fibre, fabric and garment properties to give the consumer an indication of all the different aspects that influence comfort.

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- **Do consumers relate the formal features of textiles to the functional performance aspect of maintenance? (Sub-objective 1.1.3)**

The results indicate that for formal daywear all of the listed indicators of easy-care properties were used by a statistically significant number of respondents. Fewer respondents regarded stain resistance, non static properties and tumble dryable garments and as easy-care indicators (Table IX a and Figure 12).

In the case of casual daywear the same pattern emerged. Most of the respondents looked for machine washable garments, followed by good shape retention, wrinkle resistance and 'little or no ironing' (which could be because more knits are used for casual daywear than for formal daywear). Colourfastness was also rated as an indicator that was used to assess easy-care properties. Once again fewer respondents used heat resistance, stain resistance, garments, non-static properties and tumble dryable as indicators of easy-care (Table IX b and Figure 13). Zhang *et al.* (2002) and Jacobs (2003: 138, 142) also found that wrinkle resistance and colourfastness were aspects consumers often used when making purchase decisions.

These results indicate that most of these indicators should be included in the quality assessment guide to give consumers a better idea the easy-care properties of textiles. Here it can be mentioned that the respondents do not, in most cases relate fibre content to the performance characteristics of a textile (see discussion on the use of label information in paragraph 4.3.2.2).

- **Do consumers relate the formal features of textiles to the functional performance aspect of end-use serviceability? (Sub-objective 1.1.4)**

  ➢ **Durability rating of samples**

  It is interesting to observe that the respondents did not rate fabric structure as an important indicator of quality, but could recognise twill weave as a durable

medium-weight structure and rate it more durable than the balanced plain weave and the plain weave made from uneven yarns when comparing samples (Table X a). Various researchers also found that consumers link quality to structure or type of textile (Eckman *et al.,* 1990; Abraham-Murali & Littrell, 1995a; Jacobs, 2003: 139).

All the lightweight fabrics were balanced plain weave fabrics. Two were finished to have a crinkled appearance, the one more pronounced than the other. The majority of respondents chose the more crinkled fabric as most durable (Table X b). This fabric was the heaviest of the three, which could have influenced the respondents' choice, which could indicate that they equate fabric weight to higher durability. In the case of the knitted fabric the heavier double knit was chosen as most durable by a statistically significant majority of respondents (Table X c).

In spite of seldom using fabric structure as quality indicator, the respondents had enough knowledge (or experience) to identify which fabrics would be more durable. Durability was also the main reason cited for the respondents' preference for the twill weave fabric for a suit (jacket and skirt/pants) intended for formal daywear. More direct reference to the influence of fabric structure on durability in the quality assessment guide could provide helpful information for future purchase decisions. As it seems that consumers use their sense of touch to judge fabric weight and relate this to durability, descriptions referring to these aspects were also included in the guide to make up for the lack of touch experienced by online buyers.

➢ **Comfort rating of samples**

For the medium-weight fabrics virtually the same number of respondents chose the twill (53) and balanced plain weave (54) fabrics as the most comfortable even though the twill was a polyester / viscose blend and the balanced plain weave a 100 % polyester fabric (Table XI a). This could indicate a lack of fibre knowledge and be a further justification to include more fibre information in the guide.

For the lightweight fabrics both the crinkled fabric were favourites, but on average the fabric with the less crinkled appearance (which was also slightly lighter in weight) was chosen as most comfortable by a slight margin (Table XI b). Both the fabrics were 100 % viscose fabrics. Although the third fabric (a polyester/ cotton blend) had the lightest weight, respondents did not choose it as the most comfortable fabric. It is possible that the respondents used the fact that the crinkled fabrics had more stretch due to the finish, and would therefore "give" more during wear, to help them identify these fabrics as more comfortable.

The cotton/ Lycra single jersey knit was chosen by a statistically significant majority of respondents as the most comfortable knit fabric (Table XI c). This is the fabric commonly used in T-shirts and known to most respondents as a comfortable stretch fabric. Although the lacy knit had an open knit structure, it was rated the least comfortable of the knits.

The reasons given for judging the different fabrics as comfortable varied, but most respondents who gave reasons used fabric hand (texture) and coolness on skin as indicators. Jacobs (2003: 147) and Zhang *et al.* (2002) got similar responses. When choosing the most preferred fabric for a blouse or shirt for formal daywear as well as for casual daywear, comfort was the reason most often cited for the choice. As fabrics used for this end-use are in close contact with the skin, this is a logic response. For casual daywear jackets flexibility (which would also add to comfort) was the most common reason cited for the preference of fabric.

More information on how fibre properties and fabric structure link with comfort would also help consumers to make decisions concerning the comfort of a variety of fabric types for different garments. These aspects were also addressed in the guide.

➢ **Easy-care ratings of samples**

Although a statistically significant majority of respondents want wrinkle

resistant fabrics, they did not relate this property to easy-care, as this feature was seldom cited as reason when choosing fabrics for the different end-uses (Table XII a).

It is not clear why the majority of respondents chose the twill weave as the fabric that would have the best easy care properties, as both the other medium-weight samples were 100 % polyester fabrics, while the twill weave was a polyester/ viscose blend that would probably crease more due to the viscose content. All the fabrics, however, seemed to have a reasonable resilience when scrunched, which could indicate that the viscose blend had received a crease resistant finish. (This would account for the good resilience when scrunched).

The lightweight fabric chosen as the most likely to have easy-care properties was the 100 % viscose fabric with the more crinkled appearance, although the plain-woven polyester/ cotton blend would probably crease less due to the fibre content (Table XII b). The reason for the choice can most likely be ascribed to the already crinkled appearance (which would mask creases formed during wear and care of the fabric). This choice is probably due to the crinkled look being fashionable at present and not because the respondents are aware that the crinkled effect would mask creases!

The double knit (100 % polyester), followed by the lacy knit was chosen by the majority of respondents as most likely fabric to have easy-care properties (Table XII c). Even though the jersey knit had Lycra in the blend, the respondents seem to know that cotton fabrics are more prone to creasing and would at least need touch-up ironing, and are also aware that cotton T-shirts often warp when machine washed and tumble-dried. This contradicts the above interpretation that fibre content does not play a role in the choices the respondents for this study made, and supports responses of interviewees in the study done by Jacobs (2003: 138). This could indicate experience with the specific fabric, rather than knowledge of fabric properties.

As easy-care was seldom cited as a reason for choosing a fabric for a specific end-use, it would be fair to say that more information on fabric and fibre properties would probably also help consumers in their decision-making concerning easy-care properties. Easy-care properties were linked to fibre, fabric and finish properties in the online guide to give the consumer a better idea of the effect these aspects can have on easy-care properties.

- **Do consumers relate the formal features and performance to end-use serviceability? (Sub-objective 1.1.4 b)**

As explained earlier (p 88), the respondents were asked to consider the end-use serviceability of three sets of samples. Two-way frequency tables (Table XIII a – XIII e) were drawn up to indicate how the respondents related their choices to end-use serviceability. From the results it seems that respondents do relate the type of fabric for a specific end-use to certain formal and performance aspects.

For formal daywear fabrics seen as suitable for jackets and skirts/pants were chosen mainly for their durability and neat appearance, or because they were judged to be crease resistant. These aspects were also important attributes indicated in other studies (Abraham-Murali & Littrell, 1995a &b; Zhang *et al.*, 2002; Swinker & Hines , 2006). When indicating the importance of performance features when purchasing formal daywear, the respondents indicated that appearance was the most important feature, followed by comfort. Durability was only rated the third most important feature (Table VI a and Figure 6). However, crease recovery also contributes to appearance retention – if these responses are added to those of "neat appearance" this would correspond with the initial choice of appearance as most important feature for formal daywear. When confronted with the actual fabrics, more than three times as many respondents chose durability above comfort for a jacket or skirt/pants, but when choosing a fabric for a blouse, shirt or top, comfort was rated far more important than any other feature. For casual wear the results corresponded to the results indicated in Table VI b and Figure 7.

These findings are supported by studies done in Taiwan, China and the USA (Hsu & Burns, 2002; Zhang *et al.*, 2002; Swinker & Hines, 2006). It was therefore very important to give an indication of fabric hand and feel in the consumer guide, as online buying could be very confusing due to the inability to actually feel and see the fabric.

4.3.2.2   The use of labels and type of information utilised in the decision-making process (Sub-objective 1.2)

A large majority of the respondents (78 %) always or often read labels (Table XIV). A statistically significant majority of respondents read the label to determine the size of the garment when purchasing formal daywear. In the case of casual wear a statistically significant majority read labels to determine care instructions. Other studies (Zhang *et al.,* 2002; Swinker & Hines, 2006) confirm that size and care procedures are aspects often used by consumers during decision-making. Price was only the third most important reason for reading labels when purchasing both formal and casual daywear. This confirms the findings of Zeithaml (1988) and Zhang *et al.* (2002), but is contradicted by Brown and Rice (1998: 41) and Kinkade, Giddings and Chen-Yu (1998).

When purchasing both formal and casual wear hardly any respondents thought that fibre content was very important (Table XV a & XV b and Figures 14 & 15). The reason is possibly that few people have knowledge of fibre properties and may only be interested in fibre content when it relates to prior experience (Gaal & Burns, 2001; Hines & Swinker, 2001; Jacobs, 2003: 138). When asked directly if fibre content on labels was important, less than half of the responses were affirmative (Table XV c). Nearly half said that it did not really matter if fibre content was indicated or not. A few said that this information meant nothing to them. The respondents who wanted an indication of fibre content on labels used this information to make decisions about care procedures, durability and comfort.

More information on fibre properties seems to be an urgent need. By including information on fibre properties the consumer will be better informed and know what to expect from the fabric in terms of durability, comfort and maintenance, which would, in the long run, also help in the decision-making process. This is especially important for the South African consumer who often only has a care label to rely on for information. Although the fibre content is indicated in most cases, consumers still don't seem to relate fibre content to performance properties. By including more information in the guide that indicates the importance of fibre content in determining performance, this problem could be addressed.

4.3.3 The type of textile information that would be helpful for decision-making (Sub-objective 1.2.2)

As explained in the discussion of the results, and confirmed by researchers (Kinkade *et al.*, 1998; Chen-Yu *et al.*, 2001; Gaal & Burns, 2001) a statistically significant majority of respondents want more information on fabric performance during care (i.e. if the fabric will wrinkle; stretch or shrink; need ironing; lose or take up colour). A statistically significant majority of respondents would also like to know how fabrics should perform during use (Table XVI and Figure 16). Information on fibre properties as well as the effect of special finishes on fabric properties and performance would also be helpful to a statistical majority of respondents. This confirms the need to include this type of information in a textile quality assessment guide.

4.3.4 Other information obtained from the questionnaire

Information was obtained about the amount respondents were willing to pay for different apparel items intended for both formal and casual daywear (Tables XVII a and XVII b). Two-way frequencies were also determined to see if respondents' age and level of qualification had an effect on the price they were willing to pay for various apparel items for both formal daywear and

casual daywear. In the end this information was not used in the development of the guide as explained earlier.

In Chapter 5 the methodology used for the second and the final phases of the study will be explained and discussed. Here the aspects included in the guide are justified; the compilation of the final questionnaire is discussed as well as the data-analysis methods.

CHAPTER 5

METHODOLOGY FOR THE SECOND AND THE FINAL PHASES OF THE STUDY
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5.1   THE DEVELOPMENT OF THE TEXTILE ASSESSMENT GUIDE AND MOCK WEBSITE (Second phase of the study)

The categorised data of the first phase of the study as well as information obtained from the review of literature was used to develop the quality assessment guide. Guidance was sought from an expert at the Information Technology department (UP) who is familiar with the development of interactive material for computer/web pages and knowledge was also obtained in a workshop on web design as well as from an online tutorial on the application of FrontPage 2003 (Microsoft Office training). The guide was assessed according to standard guidelines for development of an interactive web page and then pre-tested for clarity of instructions and ease of use before presenting it to the sample population for testing.

All the relevant information from the questionnaires, as well as insight obtained through a thorough review of relative literature, was used when designing the mock website and textile quality assessment guide.

Designing a website takes time and effort – there are a variety of aspects to consider that all have an influence on the design. Many of these problem areas could be circumvented, as the website for this study, was not designed for use on the World Wide Web or even on the Intranet of the University of Pretoria. The aim was to design a website that was copied to compact discs for use in the computer laboratory of the Department of Consumer Science at the University of Pretoria.

Aspects pertaining to any website were taken into consideration. These aspects include clear and concise information, but comprehensive enough to

give consumers proper information of the content, as well as clear visual material. A consistent navigation structure is also important throughout – users get frustrated if every page is drastically different from the previous. Clutter should be prevented, and to avoid this, one must avoid using too many interface elements – flashing banners combined with moving images, click-on images, sounds, buttons, and text links could be too difficult to comprehend if all were used on one page (Song & Zinkhan, 2003; Dept. of Information Technology, University of Pretoria, 2004). It is also advisable to fit the information regarding a certain aspect (i.e. tops, or skirts, etc.) onto one page – this prevents long scrolling that also irritates users. Using the correct font and case is also important – the sole use of uppercase letters makes reading on screen difficult. Text should also not be underlined for emphasis, as underlining is usually used to indicate hyperlinks; bold text or a different colour is preferable. Lighter colours should be used for the background and darker colours for the text – dark backgrounds with white text place more strain on the eyes (Dept. of Information Technology, University of Pretoria, 2004). It is obviously also very important to check for grammatical and spelling errors. It is also advisable to keep sentences short.

Technical aspects that could have an effect on speed are the size of the graphics and the resolution and number of colours used. GIF and JPG files are the best for pictures – the format that produces the smallest file size will allow the page to load faster (Dept. of Information Technology, University of Pretoria, 2004).

The literature consulted (Huizingh, 2000; Song & Zinkhan, 2003; Dept of Information Technology, University of Pretoria, 2004) suggests certain criteria for creating a website. First one should determine goals and decide who the intended audience will be. The intended audience will also determine which information will be included. Then decisions should be taken how to organise this information. It is best to plan on paper first; this helps with the eventual layout. The links to other pages should also be pre-planned. Although it was not the aim to design a retail website where products could actually be purchased, it was important to plan and design a mock website that complied

with all the basics necessary for a functioning website. This meant that all pages had to be linked correctly so that the respondents could access the information supplied in the guide with ease.

Before attempting to plan and develop the website and consumer textile guide, the researcher attended a course in web page design (Microsoft FrontPage). After planning the content and layout of the website and textile guide Microsoft FrontPage 2003 was used to design and develop the website. The following steps were followed.

- Photographs of fashionable, but classic, styles for formal day and casual wear were scanned and used for the website. This was to cater for the quite large age variation (25 – 40 yrs) of the sample.
- The home page was designed first and then the pages with different garment types (tops, skirts, pants) and hyperlinks were created to interconnect the different pages. Every garment was linked to the textile assessment guide.
- The results of the first phase of the study were used as guideline to compile the guide with relevant textile information.

Fabrics used for the garments, which were chosen for the website, were linked to information regarding their properties during wear and maintenance. The results of phase one were used to determine which aspects to include. Where necessary, textile terms that might be confusing were explained in simple terms.

Properties covered in the textile guide were linked to the properties consumers use (or don't use!) for assessing quality (results of phase one). The textile properties judged to be most helpful when making purchase decisions were (in order of importance): properties that would affect performance during care, those that would affect performance during wear, followed by fibre properties and the influence of special finishes (Table XVI and Figure 16, Chapter 4). These properties were all emphasised in the online guide.

As it seems as if many consumers judge garments on appearance and comfort (Tables VI a and VI b and Figures 6 and 7, Chapter 4), special attention was also given to describe the style and fabric properties alongside a slightly enlarged image of the garment to give online buyers a better idea what to expect. Cues used for assessing durability, comfort and ease of maintenance were also addressed in the guide.

For the guide various options were considered. An attempt was made to use symbols to represent specific textile properties. As it was difficult to obtain or to design a set of symbols that would be universally understood, another route was followed. After studying the literature and tips on web page design, the researcher decided to use simple descriptions and explanations to indicate the presence of a textile property or to explain fabric drape and hand or the effect of certain finishes.

The website and guide were pre-tested:
- The website was tested to see if all technical aspects were attended to, if the hyperlinks worked smoothly, and the ease with which the textile guide could be accessed
- Peers (with an expert knowledge of Textiles and Clothing) were asked to use the website and fill out the accompanying questionnaire. They were asked to make suggestions for the improvement of both the website and the questionnaire.

These suggestions were used to make a few adaptations. One of the adaptations was to add a scale, which indicated how the fabric hand of each garment used in the guide would compare to chiffon (on the sheer side) and denim (on the heavier side). These two fabrics were used as it was felt that most people would be familiar with the hand and appearance of these two fabrics. Although knits were used for some garments, the same scale was used for all garments. The mock web pages were then copied to compact discs so that the guide could be loaded onto the computers in the computer laboratory of the Department of Consumer Science at the University of

Pretoria, ready for testing by the research sample. The respondents also had the option to receive a CD with instructions to complete on their own computers in their own time.

5.2   CHOICE OF THE RESEARCH SAMPLE FOR PHASE THREE

5.2.1   Sample selection for the third phase of the study

For this part of the study, the sample once again consisted of female career women who purchase or intend to purchase apparel online. As the number of consumers who purchase apparel products from the Internet is still limited, non-probability sampling was once again implemented. On a suggestion by the statistical consultant the age range for respondents was enlarged to include ages 23 and 24 as well as 'over 40' respondents. A total of 200 questionnaires were returned. Purposive or judgemental sampling was recommended, as members of a specialised population were used in this study (Neuman, 2000:198).

The snowball sampling method was also used for the last phase of the study. This method of sampling is appropriate, as it is an acceptable method to use when members of a specific population are difficult to locate. As still relatively few South African consumers purchase apparel on the Internet, and few seem to have full access to the Internet (at work and at home) this was judged an appropriate sampling method for this part of the study.

As this sampling technique results in samples of questionable representative-ness, they are primarily used for exploratory studies, as is the case with this study.

For these respondents to be included in the study, they would have to comply with the following criteria:

Criterion	Justification
Respondents must be female	Female Internet buyers are an increasing force in this consumer market (Anon., Nov. 2001)
Anybody from 23 to 40 and over*	As the number of South African consumers who use the Internet to purchase apparel is limited, the statistical consultant recommended that fewer restrictions should be specified.
Be employed in a full time or part time profession	Involvement in activities that save time is greater for woman in a profession than woman who are not employed
Have a post-school education (certificate, diploma or degree)	"Distance" buyers are often seen as risk takers associated with a higher level of education (Jasper & Ouellete, 1994:25).
Have Internet access on at least a weekly basis	Must be comfortable with using the Internet to be able to answer questions concerning the quality assessment guide.

* As the number of South African career women who purchase apparel on the Internet is still relatively small the statistical consultant suggested that the there should only be a bottom age limit to get as many respondents as possible to take part (Webcheck: Archive – online shopping trends, 2006).

The "Campus News" facility (Staff Intranet) of the University of Pretoria was used to request female staff members to take part in the research.

For participants who are not employed by the University of Pretoria contact persons, who fit the profile, were asked to get their co-workers to take part. They were supplied with the mock website on CD as well as a letter to explain the study objectives, what was expected of them, how they would participate, and how they could benefit from this study. Each CD was also accompanied by a set of instructions as well as web addresses of five different South African websites – they were asked to choose one of the five to compare to the mock website. The instructions and web addresses were also supplied in hard copy. The questionnaire was included on the compact disc and could be saved as a Word document, completed on computer and sent back via e-mail. Hard copies of the questionnaire were also supplied if requested.

5.3   THE CHOICE, DESCRIPTION AND APPLICATION OF DATA COLLECTING TECHNIQUES

5.3.1 Data collecting technique

As South African apparel websites generally supply very little textile information to consumers, it was decided to let the respondents compare one South African website to the mock website containing the textile guide (they were given five web addresses of well-known South African apparel retailers). The researcher decided not to use the mock website without the guide for comparison, as the difference would be too obvious if no information was supplied – this could bias the results.

The mock website was copied on CD ready to be opened on the computers of the Department of Consumer Science at the University of Pretoria. After posting a notice on the staff Intranet of the University of Pretoria, one of the respondents (from the Department of Information Technology) offered to copy the CD and questionnaires to the staff Intranet, which meant that any staff member could access the guide in their office, fill out the questionnaire and return it by e-mail. The respondents were asked to use the website and then assess the information provided in the web pages by answering a structured questionnaire. They were also asked to access one South African apparel retail website of their choice and then assess the information provided in the web pages by answering the second part of the structured questionnaire. Five website addresses were supplied that could be accessed[3]. They were asked to indicate the website that had been accessed to enable the researcher to compare the responses. This was judged an appropriate method, as the sub-objectives and specific aims could be addressed in this way, and as other researchers have successfully used structured questionnaires to measure consumer perceptions of apparel

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3   These websites were chosen as they represent well-known South African apparel retailers. Most of these websites only contain basic information regarding the garments on offer. This information includes sizing, price and in some cases a vague description of the textile used. One of the websites also includes care instructions, and although it supplies information on the latest fashion in store, it only has underwear on offer via the Internet.

quality and decision-making in fashion retailing (Abraham-Murali & Littrell, 1995b; Birtwistle *et al.*, 1998).

5.3.2 The structured questionnaire for the third phase of the study

Here the objective was to determine if the online guide had helped the respondent in her decision-making process. They were asked to rate the content and amount of supplied information of the products on offer. Although this was the main objective, questions were also asked to determine if the respondent was able to access the necessary information with relative ease.

Once again closed questions were used for the same reasons as in the first phase of the study. As the guide was tested in the computer laboratory of the Department of Consumer Science of the University, there were enough computers available to accommodate ten respondents per session.

TABLE XVIII: THE STUCTURE OF THE QUESTIONNAIRE (Third phase)

SECTION	ASPECTS MEASURED	QUESTION NUMBER
A	**Aspects concerning the textile quality assessment guide**	
	Content: Easy to understand	Questions 1-14
	Contains information on fibres and their properties that help with decision-making	
	Contains information on fabrics and their properties that help with decision-making	
	Contains information on applied finishes and their properties that help with decision-making	
	Gives one a better idea of textile appearance	
	Gives one a better idea of textile hand	
	Facilitates decision-making	
	Design: Navigability, labelling of links, interactivity, aesthetically appealing	Questions 15-19
	Technical elements: All links work, quick download	Questions 20-22
	Credibility: Styles are up to date; page recently updated; contact person indicated	Questions 23-24

B	Aspects concerning an existing South African website	
	Content: Easy to understand	Questions 1-14
	Contains information on fibres and their properties that help with decision-making	
	Contains information on fabrics and their properties that help with decision-making	
	Contains information on applied finishes and their properties that help with decision-making	
	Gives one a better idea of textile appearance	
	Gives one a better idea of textile hand	
	Facilitates decision-making	
	Design: Navigability, labelling of links, interactivity, aesthetically appealing	Questions 15-19
	Technical elements: All links work, quick download	Questions 20-22
	Credibility: Styles are up to date; page recently updated; contact person indicated	Questions 23-24
	Comparison of content (mock site and SA site accessed)	Questions 25-26
	SA website accessed	Question 27
C	**Demographics**	Questions 1-5

The questionnaire consisted of three sections with a total of 56 questions. The first part of the questionnaire was to assess the mock website and online guide, the second part to assess an existing South African website and the third to obtain biographic information. The first 24 questions (Section A) determined the respondents' reaction to the mock website. Aspects included were related to content (14 questions), design (5 questions), technical elements (4 questions) and credibility (2 questions). The next set of questions (Section B) was similar to Section A, and used for assessing a South African website. The same divisions as for Section A were used: content (14 questions); design (5 questions); technical elements (3 questions) and credibility (2 questions). At the end another set of questions was added to compare the two websites (2 questions) and one question to indicate which South African website had been used for comparison. The last set of five questions (Section C) was to gather demographic information (age, level of education, and use of the Internet). (See Appendix 2 for the second questionnaire, cover letter and instructions).

As in the first phase of the study closed questions were chosen to ensure easy and quick response and to simplify the coding of the responses. Once again closed questions were used. Likert-scales were used where Disagree/Neutral/

Agree responses were required for the questions relating to the content (information supplied). Agree/Disagree responses were required for the questions relating to design, technical elements and credibility. Where they were asked to compare the mock website containing the textile guide, respondents were asked to rate the information supplied, on a 3-point scale in terms of facilitating decision-making.

5.3.3 Data collecting procedures for phase three

The same procedure, used in phase one of the study, was followed for the third phase. Before finalising the questionnaire for phase three of the study the questionnaire was evaluated by a research consultant, a statistician, clothing and textile experts and the study leader. Both content and measures used to obtain data were evaluated. The suggested adaptations were made before colleagues in the Clothing and Textile division of the Department of Consumer Science were asked to use and evaluate the website and online guide. After this evaluation further changes were made before the final version was copied to compact disc.

The Intranet of the University of Pretoria was initially used to canvas for respondents. The purpose of the study was explained and each potential respondent was informed of the possible benefits she could derive from participating. As in phase one of the study it was suggested that the sample should include both university staff as well as career women employed elsewhere.

The respondents were expected to attend a "test" session in the computer laboratory of the Department of Consumer Science or they could choose to be supplied with a CD and instructions for completing the exercise on their own. The computer laboratory has Internet connection and ten computers available for each session. As explained (5.3.1) a staff member at the Department of Information Technology copied the website, instructions and questionnaires to the staff Intranet of the University of Pretoria. All respondents from the university chose to use this option as they found it more convenient and less time

consuming. The respondents not working at the university were supplied with compact discs and a set of instructions, as it was too time-consuming for them to come to the university. All questionnaires were received via e-mail, printed out, hand-coded by the researcher and then electronically entered and captured at the University of Pretoria.

5.4   DATA ANALYSIS

5.4.1 Coding and capturing the data obtained in the final phase of the study

- **The questionnaire**

The same procedure was followed as for phase one. Here all the questions were closed questions. The questionnaires were hand coded and the data then captured electronically by the data-capturing division and checked for correctness.

The questionnaire was used to assess the effectiveness of the guide. The responses were recorded, organised and coded. The data were then analysed using descriptive statistics. Once again, frequency distribution (two-way contingency tables) as well as a specialised χ^2 test (the McNemar test) were used to determine how the various aspects in the guide helped the consumer when making decisions regarding the quality of outer wear garments for formal day/office and casual wear.

5.4.2 Operationalisation

The central concepts were expressed in the research problem and the framework for the research process. Theoretical definitions for the concepts concerning quality as well as the applicable concepts related to the buying process were given in Chapter 2. Theoretical definitions and descriptions of relevant concepts facilitate the development of measures or activities that allow the researcher to observe the constructs empirically (Mouton, 1996: 125; Neuman, 2000; 160; Babbie & Mouton, 2001: 128).

Cronbach's alpha coefficient was used to assess the degree of internal consistency of the responses. The reliability of the factors was assessed by Cronbach's alpha coefficient. In general, alpha values of 0.70 and higher are considered to be acceptable (Watson & Klassen, 2004). The formula for the standardised Cronbach's alpha is as follows:

$$\alpha = \frac{N \cdot \bar{r}}{(1 + (N-1) \cdot \bar{r})}$$

Where N = the number of items and

$\bar{r}$ = the average inter-item correlation among items

McNemar's test of correlated proportions was used to determine the significance of the difference between the "agree" and "disagree" responses when asked to compare the information supplied by the website containing the guide to the chosen South African website. This test is applied to 2 x 2 contingency tables (Watson & Klassen, 2004). To be able to apply this test, the data had to be recoded. The "disagree" and "neutral" responses were grouped together as both responses implied that the supplied information would not influence (or change) their decision-making. By examining the change in responses after using both websites, significant differences in the type of textile information supplied by the different websites was detected.

The McNemar statistic computation (a Chi-Square test) is shown below:

$$\chi^2 = \frac{(b-c)^2}{b+c}$$

In four cases the McNemar test could not be done, as the recoding grouped al the responses for those four variables into one cell (there were no positive responses for these variables when assessing the chosen South African website). Binominal tests were done in these cases.

TABLE XIX: OPERATIONALISATION: OBJECTIVE, RELATIVE QUESTIONS, AND STATISTICAL METHODS

Objectives & Sub-objective	Relative question	Statistical methods used
Objective 3: Does the guide facilitate decisions concerning the online purchase of apparel products?	Section A: Question 1-24 Content of textile guide: Question 1- 14	Frequencies and percentages of responses concerning the descriptors, were used; Cronbach's alpha coefficient was used to test reliability of the responses and McNemar's test of symmetry was done after recoding the responses into 2-point scales (this tested if the website containing the guide elicited more positive responses when compared with the South African websites); Binominal tests were used where McNemar's test could not be applied.
	Design of mock website: Question 15 – 19 Technical elements: Question 20 – 22 Credibility: Questions 23 - 24	Frequencies and percentages of responses concerning the descriptors, were used
	Section B: Question 1-24: Content of SA website: Question 1- 14	Frequencies and percentages of responses concerning the descriptors, were used; Cronbach's alpha coefficient was used to test reliability of the responses and McNemar's test of symmetry was done after recoding the responses into 2-point scales (this tested if the website containing the guide elicited more positive responses when compared with the South African websites); Binominal tests were used where McNemar's test could not be applied.
	Design of SA website: Question 15 – 19 Technical elements: Question 20 – 22 Credibility: Questions 23 – 24	Frequencies and percentages of responses concerning the descriptors, were used
	Comparison of content of mock website with textile guide and chosen SA website: Question 25 –26	Frequencies and percentages of responses concerning the descriptors, were used
	Chosen SA website: Question 27	Only included for control purposes

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5.5   QUALITY OF THE DATA

5.5.1 Validity

The same measures of validity used in the first phase of the study (as described in Chapter 3) were also applied to the third phase of the study.

- **Construct validity**

As in phase one, construct validity refers to the logic of the items which comprise the measures of the concepts. A good construct has a theoretical basis, indicated ('translated') by clear operational definitions that involve measurable instruments (Trochim, 2005: 50; Statistics Solutions, 2007).

➢ **Criterion-related validity**

Convergent validity is assessed by the correlation among items which make up the instrument used to measure a construct (internal consistency). In this part of the study Cronbach's alpha was also used to establish internal consistency of the responses relating to the content of the mock website containing the textile quality assessment guide and the content of the chosen South African apparel website. This method is both valid and reliable. An alpha-value of 0.70 is considered adequate, and a value of 0.80 is considered good for confirmatory purposes.

➢ **Translation validity**

Face validity has to do with items seeming to measure what they claim to. This does therefore not refer to what an instrument actually measures, but what it appears to measure (Babbie & Mouton, 2001:123; Neuman, 2000: 168). The measure therefore appears relevant to those who will complete it. In the case of the second questionnaire, the questions all relate to the online textile assessment guide as well as the mock website. Another set of questions relates to an existing South African website. This was used to

compare the responses on the existing South African website(s) with the developed website linked to the online textile quality assessment guide.

Content validity is concerned with adequacy and representativeness. In this study appropriate statistical techniques (frequencies, averages, specialised χ^2 tests) were used for the analyis of data from which conclusions were drawn based on a thorough understanding of the literature (Mouton, 1996: 111; De Vos & Fouché, 1998:84-5; Babbie & Mouton, 2001:123; Neuman, 2000: 168; Trochim, 2005: 51). A **pre-test** was done to test the measuring instrument

5.5.2 Reliability

Reliability is an indicator of dependability or consistency (Neuman, 2000: 164). It indicates the likelihood that a given measurement technique will repeatedly yield the same description of a given phenomenon (Mouton, 1996: 144). The numerical results that are produced by the indicator do not vary because of the measurement instrument itself. In the case of this phase of the study, the type of measurement used, namely Likert-type scales, "Agree/Disagree" statements, standard statistical coding methods, as well as the use of a pre-test ensure reliability (Neuman, 2000: 165; Babbie & Mouton, 2001: 120; 646). The following strategies were applied in the third phase of the study to ensure reliability:

- The questions used in the questionnaire were closed questions
- The questionnaire was pre-tested
- The questionnaire could be completed in a relatively short time, was easy to understand and relevant
- A cover letter explaining the objective of this phase of the study   and the importance of their participation accompanied the questionnaire.
- The use of Likert-type scales is a well-established method of data collection. Standard statistical coding methods were also used.

- Cronbach's alpha coefficient was used to determine consistency (reliability) of the responses.

5.5.3 Representative sampling

According to Mouton (1996: 136), the key concept in sampling is that the sample should be representative of the chosen population. Only then can generalisations concerning the whole population be made. The sampling frame must be representative of the target population to prevent bias.

The sampling method used for the third part of the study was also purposive (judgemental sampling). This is an acceptable sampling method when the researcher wants to select a wide variety of respondents to test the broad application of the questions (Neuman, 2000: 198; Babbie & Mouton, 2001: 166).

The purposive or judgemental sampling method used for the last phase of the study (snowball sampling technique) is appropriate, as it is an acceptable method to use when members of a specific population are difficult to locate. As still relatively few South African consumers purchase apparel on the Internet, this was judged an appropriate sampling method for this part of the study.

As this sampling technique results in samples of questionable representative-ness, it is primarily used for exploratory studies, as is the case with this study.

5.6   DATA PRESENTATION

The data obtained through the questionnaire were statistically analysed. The data conversion is available in hard copy (researcher's files) as well as electronic copy at the Department of Statistics of the University of Pretoria. The results and statistical findings of phase three of the study are presented, discussed and interpreted in Chapter 6.

CHAPTER 6

RESULTS, DISCUSSION AND INTERPRETATION OF THE FINAL PHASE OF THE STUDY

6.1   INTRODUCTION

The objective of the final phase of the study was to determine if an online textile quality assessment guide would facilitate the online consumer's decision-making when purchasing garments on the Internet. The results were used to assess the usefulness of the guide. The results of the final phase were also related to the aspects that play a role in apparel decision-making, as discussed in Chapter 2.

The responses to the questions on the mock website containing the online guide and five different South African apparel retail websites were compared. (No reference is made to individual South African websites; the results are discussed in general terms, as the respondents were asked to access only one South African website – they could choose anyone of the five suggested sites).

6.2   RESULTS AND DISCUSION OF THE THIRD PHASE OF THE RESEARCH:

6.2.1 Demographic information

TABLE XX: AGES OF RESPONDENTS

Age of respondents	Frequency	% Respondents
23 – 29 years old	59	29.5
30 – 34 years old	82	41.0
35 – 40 years old	41	20.5
Over 40 years old	18	9.0

Where in the first phase of the study the different age groups in the study were more or less equally represented, for the third phase of the study more respondents (41 %) fell into the 30 – 34 year age group, followed by the 23 – 29 year age group (29,5 %). Slightly less (20,5 %) fell in the 35 – 40 year age

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group and only a few (9 %) fell in the 'over 40' age group. (As most South African web-users fall in the 25 – 35 year age group, this means that this group is well represented in the sample) (Webchek: Archive – Online shopping trends, 2006).

TABLE XXI: EDUCATION LEVEL OF RESPONDENTS

Highest qualification	Frequency (n=200)	% Respondents
Post school certificate/ diploma	11	5.5
National diploma/ Higher diploma	65	32.5
Degree or equivalent	124	62.0

As in the first phase of the study, the majority of the respondents had a degree or equivalent qualification (62 %), while 32.5 % had a national or higher diploma.

TABLE XXII: LENGTH OF INTERNET USE

Experience with Internet	Frequency (n=200)	% Respondents
Less than 6 months	0	-
6 – 12 months	2	1.0
1 – 3 years	19	9.5
4- 6 years	70	35.0
7 years or more	108	54.0
Other	1	0.50

It seems that most respondents have been using the Internet between four to seven years or longer. The majority of the respondents (108 – 54%) have been using the Internet for seven years and longer, while 70 (35%) of the respondents have been using it between four and six years. One respondent specified that she has been using the Internet for 17 years. One can therefore deduct that most of the respondents have knowledge of the Internet and are familiar with using it.

TABLE XXIII: FREQUENCY OF INTERNET USE

Frequency of Internet use	Frequency (n=200)	% Respondents
Once a month or less	34	17.0
Once a week	36	18.0
2 – 3 times a week	69	34.5
Every day	61	30. 5

The results indicate that the majority of respondents use the Internet two to three times a week (34,5 %) or more (every day: 30,5 %), which means that 65 % of the respondents frequently use the Internet. The assumption can therefore be made that they are familiar with the Internet.

TABLE XXIV: FREQUENCY OF ONLINE APPAREL PURCHASING

Frequency of online apparel purchasing	Frequency (n=200)	% Respondents
Never	164	82.0
Once a year or less	26	13.0
Once a season or less	9	4.5
Once a month or less	1	0.5
Once every two weeks	0	-

The results indicate that very few of the respondents ever purchase apparel online. A small percentage of respondents (13 %) seem to purchase something once a year or less. Only a very small percentage (4.5 %) of the respondents seam to buy something each season and only one respondent (0.50%) uses the Internet once a month or less to purchase apparel. The vast majority (82 %) have never purchased any apparel online. These results are as expected as South African buyers still prefer to browse and shop in traditional shopping environments (Webcheck: Archives – Online shopping trends, 2006). This could be an indication that the majority of these respondents have not yet developed new or adapted existing apparel purchasing scripts for online buying and this could have had an effect on the way they judged and compared the websites.

6.2.2 Comparison of the content of the website containing the textile guide and the different South African websites used in this study

One of the main objectives of the study was to determine if a textile guide would supply consumers (and especially online consumers) with enough information to facilitate decision-making during apparel purchasing.

Table XXV indicates the reliability of the responses regarding the content of the websites used in the study.

TABLE XXV: INTERNAL RELIABILITY OF RESPONSES TO QUESTIONS RELATING TO THE DIFFERENT WEBSITES

Content	Cronbach's Alpha	Number of items
Questions 2 – 15 (Website + guide)	0.720	14
Questions 26 – 39 (SA websites)	0.792	14

As explained in Chapter 5, Cronbach's alpha coefficient was used to assess the degree of internal consistency and reliability of the responses. In general, an alpha value of $P \geq 0.70$ is an acceptable measure of consistency and in both cases, the P-value is greater than 0.70, which indicates an acceptable consistency and reliability of the responses (Gliem & Gliem, 2003; Watson & Klassen, 2004).

The results of the second questionnaire are presented in the following tables to illustrate the responses to both the website containing the textile guide and the South African websites that were accessed by the respondents.

In the discussion the responses to statements relating to specific cues regarding the website containing the textile guide are compared to the responses to the same statements regarding the South African websites used in this study.

The relationship between information supplied by the website containing the textile guide and the South African websites is indicated in Table XXVI. The statistician recommended that the data should be recoded, as 2x2 contingency tables are required for the McNemar test. The recoded responses allow for only two possibilities, therefore the frequencies of the "disagree" and "neutral" responses were added to give the one possibility, and the "agree" responses gave the other possibility of the 2 x 2 contingency tables so that McNemar's test could be performed. (The original coded responses as well as the recoded values can be found in Addendum 3). This was done as the assumption was made that someone who was neutral towards the information would probably be as disinclined to buy online as someone with a negative response.

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TABLE XXVI: COMPARISON OF THE CONTENT OF THE WEBSITE CONTAINING THE TEXTILE GUIDE AND THE DIFFERENT SOUTH AFRICAN WEBSITES

	Frequency Column % % N = 200	South African websites			Aspects relating to content
		Disagree + Neutral	Agree	Total	
	Disagree + Neutral	3 / 10.0	0 / 0.00	3 / 1.5	Information supplied easy to understand (McNemar's test: p = 0.000[a])
	Agree	27 / 90.0	170 / 100.0	197 / 98.5	
	Total	30 / 15.0	170 / 85.0	200 / 100.0	
	Disagree + Neutral	5 / 14.3	48 / 29.1	53 / 26.5	Illustrations help to visualise garment (McNemar's test: p = 0.054[a] : two-sided; p= 0.028: one-sided)
	Agree	30 / 85.7	117 / 70.9	147 / 73.5	
	Total	35 / 17.5	165 / 82.5	200 / 100.0	
	Disagree + Neutral	18 / 9.9	0 / 0.0	18 / 9.0	Additional style information helps visualise the garment (McNemar's test: p = 0.000[a])
	Agree	163 / 90.1	19 / 100.0	182 / 91.0	
	Total	181 / 90.5	19 / 9.5	200 / 100.0	
Website containing textile guide	Disagree + Neutral	54 / 27.0	- / -	54 / 27.0	Tactile information helps to form an idea of fabric hand McNemar's test could not be performed; binominal test p =0.000[b])
	Agree	146 / 73.0	- / -	146 / 73.0	
	Total	200 / 100.0	- / -	200 / 100.0	
	Disagree + Neutral	36 / 18.0	- / -	36 / 18.0	Effect of fibre property information on understanding durability McNemar's test could not be performed; binominal test p = 0.000[b])
	Agree	164 / 82.0	- / -	164 / 82.0	
	Total	200 / 100.0	- / -	200 / 100.0	
	Disagree + Neutral	18 / 9.0	1 / 100.0	19 / 9.5	Effect of fibre property information on understanding comfort (McNemar's test: p = 0.000[a])
	Agree	181 / 91.0	0 / 0.0	181 / 90.5	
	Total	199 / 99.5	1 / 0.5	200 / 100.0	
	Disagree + Neutral	1 / 0.5	1 / 12.5	2 / 1.00	Effect of fibre property information on understanding ease of care (McNemar's test: p = 0.000[a])
	Agree	191 / 99.5	7 / 87.5	198 / 99.0	
	Total	192 / 96.0	8 / 4.0	200 / 100.0	
	Disagree + Neutral	54 / 27.0	- / -	54 / 27.0	Effect of fabric property information on decision-making McNemar's test could not be performed; binominal test p = 0.000[b])
	Agree	146 / 73.0	- / -	146 / 73.0	
	Total	200 / 100.0	- / -	200 / 100.0	

Disagree + Neutral	21 10.6	1 100.0	22 11.0	Effect of applied finish information on decision-making (McNemar's test: p = 0.000[a])
Agree	178 89.4	0 0.0	178 89.0	
Total	199 99.5	1 0.5	200 100.0	
Disagree + Neutral	4 2.2	0 0.0	4 2.0	Effect of care symbols and care instructions on decision-making (McNemar's test: p = 0.000[a])
Agree	182 97.8	14 100.0	196 98.0	
Total	186 93.0	14 7.0	200 100.0	
Disagree + Neutral	3 2.0	3 5.9	6 3.0	Effect of the combination of descriptions and photographs on visualisation of the garment (McNemar's test: p = 0.000[a])
Agree	145 98.0	48 94.1	193 97.0	
Total	148 74.4	51 25.6	199 100.0	
Disagree + Neutral	56 28.6	0 0.0	56 28.0	Effect of fabric description on assessing fabric hand (McNemar's test: p = 0.000[a])
Agree	140 71.4	4 100.0	144 72.0	
Total	196 98.0	4 2.0	200 100.0	
Disagree + Neutral	28 14.2	0 0.0	28 14.0	Information facilitates decision-making (McNemar's test: p = 0.000[a])
Agree	169 85.8	3 100.0	172 86.0	
Total	197 98.5	3 1.5	200 100.0	
Disagree + Neutral	74 37.0	- -	74 37.0	Information helps decision about overall quality McNemar's test could not be performed; binominal test p = 0.000[b])
Agree	126 63.0	- -	126 63.0	
Total	200 100.0	- -	200 100.0	

[a] Binominal distribution used (the two-sided P-value is divided by 2 for the one-sided questions)
[b] Based on Z-approximation

Table XXVI shows the frequencies used for the McNemar test of correlated proportions to evaluate the significance of respondents' "agree" or "disagree" responses to the information supplied by the websites that were compared. By examining the difference in response after comparing the websites, significant differences in the information supplied could be detected. Each aspect relating to the content of the websites that were compared is discussed separately. For this test the level of significance used was $\rho < 0.05$.

There were four instances where the McNemar test could not be performed as none of the respondents agreed on the statements for the South African websites.

A binominal test was done on these recoded values. All the values obtained with this test indicated a statistically significant difference between the website containing the guide and the chosen South African website it was compared to.

The majority of the respondents found the information supplied by the website containing the textile guide as well as the South African websites easy to understand, but the McNemar test indicates that significantly more respondents ($\rho < 0.000$ on a 5 % level of significance) gave the website containing the textile guide a better rating than the South African websites.

When looking at the frequencies, more respondents (165) agreed that the illustrations of the South African websites helped them to visualise the garment. There were 147 respondents who agreed that the illustrations used in the website containing the textile guide helped them to visualise the garment. The McNemar test indicates this as a statistically significant difference ($\rho < 0.028$ on a 5% level of significance).

When asked if additional style information helped them to visualise the garment, the majority of the respondents (182; 91 %) agreed that the information supplied by the website containing the textile guide did help them to visualise the garment, but only 19 (9.5 %) of the respondents agreed that additional style information supplied by the South African websites helped them in this respect. The Mc Nemar test indicates this difference in responses as statistically significant ($\rho < 0.000$ on a 5 % level of significance).

Most respondents (146; 73 %) agreed that website containing the textile guide supplied information on tactile aspects, helped them to form an idea regarding the fabric hand. This was one of the four statements where the McNemar test could not be performed as none of the respondents agreed on this statement for the South African website. A binominal test was done on the recoded values and the values obtained with this test indicated a statistically significant difference between the website containing the textile guide and the South African websites ($\rho < 0.000$ on a 5 % level of significance).

When asked if the information supplied regarding fibre properties had given them a better understanding of durability, most respondents (164; 82 %) agreed that the website containing the textile guide complied. Once again the McNemar test could not be applied as no respondents agreed that the South African websites had helped them gain a better understanding of durability. A binominal test was also done on these results and also indicated a statistically significant difference between the website with the textile guide and the South African websites ($\rho < 0.000$ on a 5 % level of significance).

Once again a large majority of the respondents (181; 90.5 %) agreed that the fibre property information contained in the textile guide had helped them gain a better understanding of comfort, while 199 (99.5 %) of the respondents disagreed with this statement regarding the South African websites. The McNemar test indicates a statistically significant difference in responses ($\rho < 0.000$ on a 5 % level of significance), which indicates that the website containing the textile guide was regarded as significantly better in this respect.

When asked if the information supplied on fibre properties had helped them gain a better understanding of ease of care a large majority (198; 99 %) agreed that the information supplied by the textile guide had helped them, while 192 (96 %) of the respondents disagreed that the South African websites had helped them in this respect. Once again the McNemar test indicates a statistically significant difference in the responses ($\rho < 0.000$ on a 5 % level of significance), with a better rating for the website containing the textile guide.

Although only 146 (73 %) of the respondents agreed that the textile guide supplied enough information to help them with decision-making, no one agreed that the South African websites had helped them in this respect. As the McNemar test could not be performed, a binominal test was done on the recoded values and the values obtained with this test indicated a statistically significant difference between the website containing the textile guide and the South African websites ($\rho < 0.000$ on a 5 % level of significance).

When asked if the textile guide supplied enough information regarding applied finishes to help with decision-making, 178 (89 %) of the respondents agreed, while only one (0.5 %) agreed that the South African website accessed supplied enough of this type of information to help decision-making. The McNemar test indicates a statistically significant difference in responses ($\rho < 0.000$ on a 5 % level of significance), which once again indicates that the website containing the textile guide was given a better rating by the respondents.

Most respondents (196; 98 %) also agreed that the care symbols together with the care instructions supplied in the textile guide helped them get a clear idea of the care procedures involved. Only 14 (7 %) of the respondents agreed that the South African websites had helped them in this regard. Once again the McNemar test indicates a statistically significant difference in the responses ($\rho < 0.000$ on a 5 % level of significance), with a better rating for the website containing the textile guide.

A large majority of the respondents (193; 97 %) agreed that the combination of descriptions and photographic images supplied by the textile guide had helped them get a better idea of the garment's appearance. Although 148 (74 %) of the respondents felt the same about the South African websites, the Mc Nemar test indicates a statistically significant difference in responses ($\rho < 0.000$ on a 5 % level of significance), which once again gives the website containing the textile guide a better rating.

A smaller majority of respondents (144; 72 %) agreed that the fabric descriptions in the textile guide had helped them to assess fabric hand. Only four respondents (2 %) agreed that the South African websites had helped them in this respect. The McNemar test once again indicates a statistically significant difference in the responses toward the websites that were compared ($\rho < 0.000$ on a 5 % level of significance).

When asked if the textile guide facilitated decision-making the majority of respondents (172; 86 %) agreed that the textile guide did facilitate decision-

making, but only three respondents (1.5 %) agreed that the South African websites did so. The McNemar test confirms that the textile guide got a better rating as the difference in the responses was once again statistically significant ($\rho < 0.000$ on a 5 % level of significance).

Only 126 (63 %) of the respondents agreed that the information in the textile guide helped them make a decision about the overall quality of the garments. Once again nobody agreed that the information supplied by the South African websites helped them to make a decision about the overall quality of the products on offer. The McNemar test could not be performed. A binominal test was done on the recoded values and the values obtained with this test indicated a statistically significant difference between the website containing the textile guide and the South African websites ($\rho < 0.000$ on a 5 % level of significance).

The respondents were also asked to rate the website containing the textile guide as well as the South African websites used in the study. A three-point scale was used to indicate if the supplied information would definitely help with decision-making, or if the information would not affect their decision-making, or if too little information was supplied to help decision-making. A standard Chi-Square test could not be done on the results as some of the cells had counts less than 5. It was recommended that the results should once again be recoded, as decision-making would not be influenced if the respondents rated the amount of information supplied as "too little" or that the amount of information "would not affect decision-making". The McNemar test was done on the recoded values and indicated a statistically significant difference in the rating of the website containing the textile guide and the South African websites. (The original coding and the recoded values are included in Appendix 3)

The McNemar test indicated a statistically significant difference in responses ($\rho < 0.000$ on a 5 % level of significance), with a better rating for the website containing the textile guide.

TABLE XXVII: COMPARISON OF CONTENT OF WEBSITE WITH TEXTILE GUIDE AND VARIOUS SOUTH AFRICAN WEBSITES

	Frequency Column % % (N = 200)	South African websites: amount of information supplied		
Website containing textile guide		Too little + Not enough to change	Definitely helped	Total
	Too little + Not enough to change	40 20.2	1 50.0	41 20.5
	Definitely helped	158 79.8	1 50.0	159 79.5
	Total	198 99.0	2 1.00	200 100.0

These results (based on the original coding – see Appendix 3, p216) can be summarised by the following figure:

Overall comparison of website containing the textile guide and South African websites
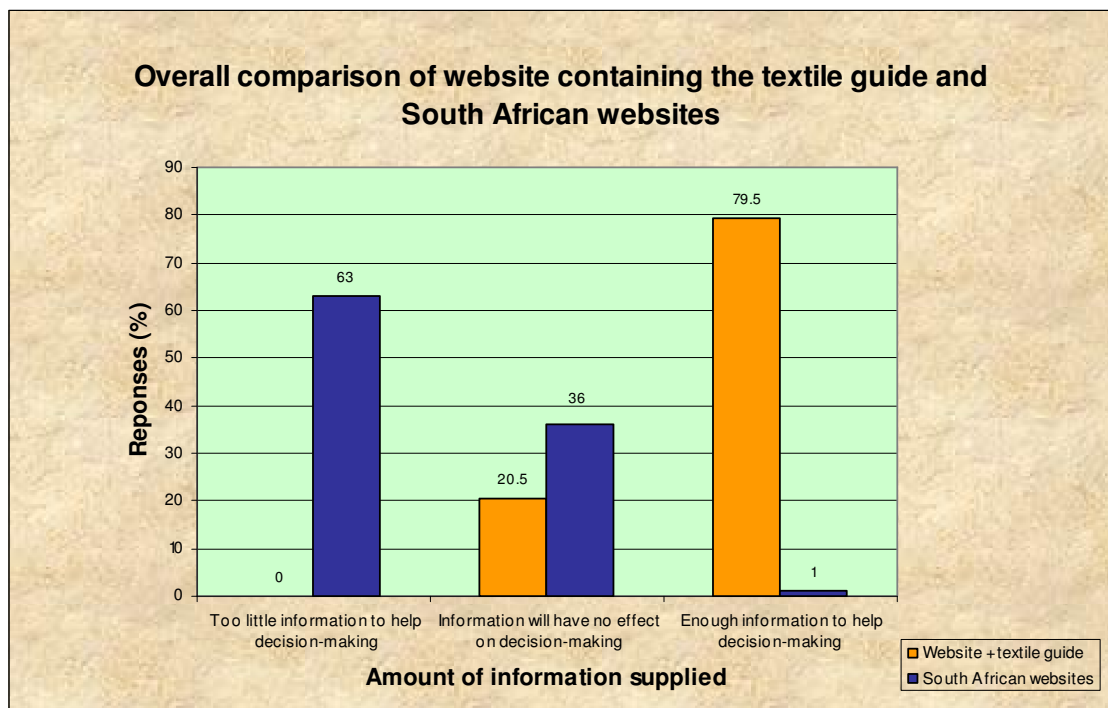
FIGURE 17:   THE OVERALL COMPARISON OF THE WEBSITE CONTAINING THE TEXTILE GUIDE AND SOUTH AFRICAN WEBSITES USED IN THE STUDY (n = 200)

The bar chart clearly shows that the majority of the respondents (159; 79.5%) were positive about the information contained in the textile guide and felt that they would be able to make a purchase decision as a result of this infor-mation. On the other hand the chart shows that the majority (126; 63 %) of

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respondents found too little information in the South African websites to enable them to make a purchase decision. Fewer respondents (41; 20.5 %) said that the information supplied by the website containing the textile guide would not influence their decision-making. In the case of the South African websites 72 (36 %) of the respondents said that the information would not influence their decision-making.

To assess the aspects concerning the design, technical elements and credibility of the website containing the textile guide as well as the South African websites used in the study, the respondents were asked to indicate if they agreed or disagreed with statements regarding the design, technical elements and credibility of the different websites.

TABLE XXVIII: DESIGN, TECHNICAL ELEMENTS AND CREDIBILITY OF THE DIFFERENT WEBSITES

Frequencies (n=200)	Website containing guide		South African websites	
Design	Disagree (%)	Agree (%)	Disagree (%)	Agree (%)
It is easy to navigate between the style pages and the different clothing items.	1.0 2	99.0 198	20.5 41	79.5 159
The information on the style and properties is concise and to the point	0.0 0	100.0 200	56.5 113	43.5 87
The site is interactive and there are links between the different clothing items	1.0 2	99.0 198	45 90	55 110
It is easy to compare the properties of the different offerings (n=198)	2.5 5	97.5 193	79.3 157	20.7 41
The variety offered is big enough (n=198)	30.3 60	69.7 138	30.3 60	69.7 138
Technical elements				
All the links work smoothly	0.5 1	99.5 199	8.5 17	91.5 183
The pages are interlinked and easy to access	1.5 3	98.5 197	37.0 74	63.0 126
The graphics download quickly	0.0 0	100.0 200	59.0 118	41.0 82
Credibility				
The styles are fashionable	1.5 3	98.5 197	1.5 3	98.5 197
The pages are all recently updated; contact number is indicated (SA: n=192)	2.0 4	98.0 196	71.4 137	28.6 55

In terms of the design aspects the table indicates that most respondents agreed that the website containing the textile guide was easy to navigate (198 respondents; 99 %), that the information on style and properties was concise and to the point (200 respondents; 100 %), that the site was

interactive and the links worked smoothly (198 respondents; 99 %). The majority (193 respondents; 97.5 %) also found that it was easy to compare the properties of the different garments on offer. The variety offered seemed to be the only aspect that could be improved upon, as only 138 respondents (69.7 %) of the respondents agreed that there was enough variety.

In the case of the South African websites the responses varied. The only aspects that received positive responses were ease of navigation (159 respondents; 79.5 %) and variety offered (138 out of 198 respondents; 69.7%). Slightly more respondents agreed about the interactivity and links (110 respondents; 55 %) compared to those who disagreed (90 respondents; 45 %). Slightly more respondents disagreed (113 respondents; 56.5 %) on the aspect "Information on style and properties is concise and to the point "compared to those who agreed (87 respondents; 43.5 %). This could be related to the specific website they accessed to compare with the website containing the textile guide. The respondents did not find it easy to compare the properties of the different styles used in South African websites (157 out of 198 respondents; 79.3 %).

The website containing the textile guide was also rated high on all technical aspects. All the South African websites were rated high for "All links work smoothly" (183 respondents; 91.5 %), but got less positive responses for interlinking of pages and ease of access (126 respondents; 63 %) and more negative responses for speed of downloading graphics (118 respondents; 59 %). This result was probably also influenced by the website chosen to compare to the website containing the textile guide.

Once again the website containing the textile guide received mostly positive responses in terms of credibility. The South African websites received exactly the same response as the website with the guide for "The styles are fashionable" (197 respondents; 98 %), but only 55 respondents (28.6 %) thought that the pages had recently been updated. This was probably because they did not look for the date in the fine print at the end of the pages

– the website containing the textile guide was less cluttered and the date was easier to see.

6.3   INTERPRETATION OF THE RESULTS OF THE THIRD PHASE OF THE STUDY

6.3.1   Introduction

The objective of the third phase of the study was to test the textile guide developed in phase two of the study and to determine if the information supplied helped to facilitate decision-making.

A quantitative research style was once again chosen. A self-administered questionnaire (available with the website containing the textile guide on the staff intranet of the University of Pretoria or on the CD supplied to respondents not employed at the university) was used to collect the data for the third phase of the study.

The results of the third phase of the research are interpreted in this section to determine if the third objective, "Does the guide facilitate decisions concerning the assessment of the fabric quality of online apparel products?" was met. Reference is also made to the South African websites used in the study.

The sub-objectives for the first phase of the study are once again used as guideline for the interpretation. The results are also compared to those of other researchers and authors as discussed in Chapter 2.

6.3.2   Interpretation of the results related to the content of the website containing the textile quality assessment guide

There were fourteen statements that were used to assess the content and

compare the website containing the textile guide to selected South African websites. The difference of responses was statistically significant in all fourteen cases with all but one rating the website containing the textile guide as being better. (This single case will be addressed later).

It seems that the guide was successful in supplying enough easy- to-understand information on most of the aspects related to the formal physical and performance aspects of textile quality to help with decision-making. The textile guide was also successful in supplying enough style information and visuals to help the respondents form a better idea of the appearance of the garments. The respondents seemed to have an excellent understanding of fibre and fabric properties that influence maintenance aspects (99 % agreed that they understood the effect of fibre properties on ease-of-care, and 98 % agreed that the combination of care symbols and care instructions gave them a better insight into the care procedures involved). As care labels are often the only source of information South African consumers can rely on, this result could be expected as care symbols and instructions would be familiar. (It was interesting to see that only one of the five South African websites chosen for assessment, supplied care instructions and additional care information).

The guide also seemed to supply enough fibre property information to give the respondents a better understanding of properties that affect comfort and durability (although less respondents agreed that they had gained a better understanding of durability – 82% as opposed to 90.5 % regarding comfort). The information supplied regarding applied finishes and the properties they add to the garment also appeared to be highly successful. As 86 % of the respondents were of the opinion that the guide did facilitate decision-making, the third objective was achieved.

Although the website with the guide got an overall better rating than the South African websites, there are aspects that can be improved upon. In four of the fourteen cases (statements) the number of respondents who agreed was less than 80 % of the total. As expected the aspect that was most

difficult to assess was fabric hand. Although the majority of respondents gave the website containing the textile guide a higher rating than the South African websites, not as many respondents [73 % and 72 % (questions 4 & 12)] agreed that they would be able to judge fabric hand by using the guide. According to Sasaki *et al.* (2004) consumers have concrete images of fibres and fabrics that have distinctive features or are widely used in everyday life. This also seems to correspond with the script theory as explained in research done by Erasmus *et al.* (2002) and Jacobs (2003: 176). As most of the fibres and fabrics included in the guide were well-known textiles commonly used in the type of garments displayed, this could have affected the responses. More than 25 % of the respondents did not agree that the textile guide had helped them assess fabric hand. This could be an indication that the descriptions given in the guide did not correspond to their scripts or that the idea of online buying is so far removed from their present apparel purchasing scripts, that it could not yet be accommodated in these consumers' conventional apparel purchasing scripts (Perry, 2004). In the South African context where consumers are rarely supplied with more than the most basic textile information, this scenario is more than probable. This would mean that even more attention should be paid to including textile information in apparel website design (this aspect is addressed in the recommendations). With more experience of utilising textile information, it would be possible to adapt consumers' apparel purchasing scripts over time. The relatively high positive responses from consumers who, in the majority of cases, do not buy online, could also correspond with the opinion of Kulviwat *et al.* (2004) who imply that the new virtual technology provides immediate information and experience of the product to the online consumer, which can take the place of a script. Because of the readily available information there is no immediate need to use or adapt existing scripts.

The effect of the supplied information on decision-making regarding overall quality is also not as satisfactory as the other aspects discussed, as only 126 (63 %) of the respondents agreed that the information helped them make a decision about the overall quality of the garments. The lower positive response could be ascribed to a lack of knowledge regarding the effect of

fibre and fabric properties on quality as identified in the first phase of the study. As only 36 of the respondents (18 %) have ever bought any apparel items from the Internet, this could also have influenced the response to this question.

The one aspect where the South African websites were rated significantly higher than the website containing the guide was in terms of how the illustrations had helped them visualise the garments. As explained earlier, the mock website contained mainly summer styles and the South African websites had been recently updated to display the new winter styles. In many cases these illustrations were artistic photographs of the complete fashion look for the new season, some with details in added close-up pictures. The styles in the mock website showed separate top, skirt and pant styles which did not give a "complete" picture for some of the respondents (some sent a note with their returned questionnaires and indicated that they would also like information on how to combine tops with skirts or pants to form a complete outfit – this might have influenced their response to this statement). This result is consistent with results obtained by Jacobs (2003:132) who found that consumers prefer the presentation of products to be realistic and clear. They prefer to see clothes on a person or mannequin. As they seem to have difficulty in mixing and matching the available products and forming an image of a whole ensemble, it would be advisable to include suggestions of complete outfits accompanied by visuals to address this problem.

In general it seems as if the guide did help the respondents to make decisions concerning the quality of online apparel products, but there is still room for refining and improving the textile guide to ensure that more consumers will have the confidence to make judgements that will enable them to purchase apparel online with the same ease as when purchasing in store.

CHAPTER 7

CONCLUSIONS, EVALUATION, CONTRIBUTION TO THEORY AND RECOMMENDATIONS

7.1   INTRODUCTION

The aim of this research was three-fold. In the first place the aim was to determine which textile-related cues adult career women use when making purchase decisions regarding formal and casual daywear. To determine which intrinsic aspects are important determinants of quality, when making purchase decisions, aspects relating to consumer decision-making were researched.

As the second and third aims of the study were to develop and test an online textile guide for the female South African apparel shopper, the Internet as new purchase environment and the interactive possibilities of this medium, were researched.

A quantitative approach was used throughout the study. In the first phase a structured questionnaire was used to collect data to get an insight into the intrinsic aspects consumers use when making purchase decisions regarding formal and casual daywear. The same approach was used to collect data for the last phase of the study. A structured questionnaire accompanied by a mock website containing a textile guide and detailed instructions were supplied. The purpose of the structured questionnaire was to assess if the textile information provided in the online textile guide facilitated decision-making.

In this chapter general conclusions regarding the different phases of the study are made. This is followed by an evaluation of the limitations and success of the quantitative research style, data collecting methods, sample selection, data analysis, and the quality of the study and achievement of the

sub-objectives. The study's contribution to existing theory is then discussed. Recommendations are made to the apparel industry in general as well as to apparel retailers with an online presence. Recommendations for follow-up and similar future studies are made.

7.2 GENERAL CONCLUSIONS REGARDING THE DIFFERENT PHASES

The aim of the study was not to generalise, but to obtain insight and understanding of the quality indicators career women use when making decisions regarding quality during the purchase of garments so that a textile guide could be developed to help online apparel consumers with their decision-making process. The conclusions are applicable to the respondents who took part in the study.

7.2.1 Conclusions regarding the use of formal physical textile features in the assessment of quality and career women's ability to relate these features to performance when making purchase decisions.

Certain conclusions can be drawn from the results. In the first place one can conclude that many of the South African career women who took part in the study still use price as main indicator of quality. This is probably due, not only to a lack of textile knowledge, but also to a lack of textile information, which then "forces" these consumers to use price as quality indicator. The findings of studies by Eckman *et al*. (1990) and Swinker & Hines (2006) support this conclusion. Some women do seem to rely on selected intrinsic textile related cues when making purchase decisions but, once again, due to the lack of information they seem to have difficulty in applying their knowledge during the decision-making process, as mainly tactile and appearance aspects are used when assessing quality of apparel. This is in accordance with the findings of other researchers (Eckman *et al.,* 1990; Abraham-Murali & Littrell, 1995a; Brown & Rice, 1998: 44; Jacobs, 2003: 138, 146-8; Swinker & Hines,

2006). This was seen as an indication that these consumers need more textile information that can be used during decision-making (and this applies to both online and traditional store consumers). The South African career women who took part in this study use textile related quality cues in a haphazard manner and need more structured textile information to help them understand the importance of the intrinsic textile attributes when making quality assessments.

In general the respondents usually used the more obvious durability, comfort and ease of care indicators when assessing quality, as was also the case in other studies (Abraham-Murali & Littrell , 1995a; Zhang *et al.,* 2002; Jacobs, 2003: 139; Hines & Swinker, 2006; De Klerk and Lubbe, 2007). This could support the conclusion that they lack knowledge and structured information of fibre and fabric properties that influence these performance properties. When asked to rate samples for end-use serviceability (for both formal and casual daywear) the respondents were reasonably successful in identifying the structures that would give more durable and comfortable textiles and would be easy to care for. As the samples represented fabrics that are usually used for the specified end-uses, they were familiar to the respondents. This is in accordance with the findings of Sasaki *et al.,* (2004), who indicate that consumers have concrete images of fibres and fabrics that are often used as well as those that have specific well-known surface characteristics. This also supports the script theory as found in research done by Erasmus (Erasmus *et al.*, 2002) and supported by Jacobs's findings (2003) that online consumers' decision-making will be influenced by their experience in traditional stores, as well as their prior knowledge of products.

A further conclusion was that they are aware of care labelling, but do not consistently use this information when making purchase decisions. In most cases the label is most frequently used to determine size, as this is something they are familiar with. Those respondents who do use labels in most cases do not relate the fibre content to the care instructions. They are, however, aware of care instructions and more inclined to look for easy-care properties when buying casual daywear. If consumers are supplied with more

information that indicates how the fibre and fabric properties are related to the quality of the garment's textile, they would probably be more inclined to read the labels before purchasing the garment. This would also help to eliminate many maintenance problems during use, and ensure that post-purchase evaluation would be positive and satisfactory.

For formal daywear the results show that appearance aspects are more important, which corroborates the findings of Lubbe (2003:122) and Jacobs (2003: 145-6), as well as Abraham-Murali and Littrell (1995a), Zhang, *et al.* (2002) and Hines and Swinker (2006) that symbolic and aesthetic aspects *('looks professional'; 'has a neat appearance')* play an important role in the choice of formal daywear.

From the response to the type of information the respondents would find helpful for decision-making, one can conclude that they are aware of their lack of knowledge due to lack of information – this is an important aspect to consider by both retailers in a traditional setting and retailers with an online presence.

7.2.2   Conclusions regarding the success of the guide in terms of facilitating decision-making when purchasing garments online

The mock website containing a textile guide was developed after analysing the results of the first phase of the study. The usefulness of the information supplied in the guide was compared to the information available on one of five selected South African websites.

The overall conclusion that can be made is that the information contained in the textile guide did facilitate decision-making as opposed to the South African websites that did not. Although the website containing the guide was rated better in almost all respects, there are still aspects that need more attention. It remains very difficult for the online consumer to assess the sensorial aspects of textiles. As this is a very important aspect during

decision-making, as indicated in Lubbe's research (2003: 12, 144), as well as in research done by Sasaki *et al.* (2004), more effort should be made to supply this type of information for the consumer and in a way that would be easy to understand. (This also applies to the emotional and symbolic effect of the illustrations used). It was also clear that apart from the lack of expertise regarding textile properties, consumers are often not able to visualise a complete outfit and would like suggestions to help them mix-and-match the items offered online.

The information regarding fibre and fabric properties and their effect on textile performance was given a positive rating, but tactile aspects remain a problem even though most respondents were positive and agreed that the information supplied helped them. The conclusion is made that websites should supply more information concerning the expressive quality of fabric texture (and specifically more visual cues) to compensate for the inability to handle the garments when buying online. (See discussion of limitations of this study).

Another conclusion that can be made is that, in spite of supplied information and a positive response from the participants, online consumers have difficulty to assess the overall quality of apparel products. In the case of South African consumers this can be due to a lack of textile knowledge or an inability to relate the supplied information to quality aspects, which could indicate that these consumers still need to expand their apparel purchasing scripts to accommodate more detailed textile information.

In general it seems as if the guide did help the respondents to make decisions concerning the fabric quality of online apparel products, but there is room for refinement and improvement to ensure that more consumers will have the confidence to make quality judgements that will enable them to purchase apparel online with the same ease as when purchasing in store.

7.3   EVALUATION OF THE STUDY

To make a contribution for follow-up and similar future studies, it is important to evaluate the study. This study is evaluated in terms of the following aspects:

- The quantitative research style
  - data collecting methods
  - sample selection and
  - data analysis
- The quality of the data
- The achievement of the sub-objectives and specific aims set for this study

7.3.1   Quantitative research style

A quantitative research style was chosen for the first and third phases of the study. In the case of the first phase of the study it was used to explore and describe which intrinsic quality cues career women use when purchasing garments for formal and casual daywear, as well as to determine if they could relate the formal physical features of fibres and fabrics and performance aspects to textile quality. The characteristics of this research style contributed to the success of the study. According to Neuman (2000, 16, 161) and Babbie and Mouton (2001, 646) the quantitative research style is used when one wants a total view of the problem, where emphasis is placed on variables in describing and analysing human behaviour. In quantitative research objective facts are measured, the focus is on variables, reliability is extremely important, the research is value free, independent of the context, included larger numbers of respondents, can be statistically analysed. In quantitative research the researcher is also detached, which enhances objectivity.

In the first phase of this study the aim was to explore and describe. This implies that the researcher wanted to obtain a total (complete) view of the quality cues used by South African career women when purchasing garments

for formal and casual daywear, as well as to determine if they related formal physical and performance aspects of fibres and fabrics to quality. A structured questionnaire enabled the researcher to get this total view ("broader picture") of the respondents' assessment of quality, as it measures specific dimensions of quality as explained in the conceptual framework. The questionnaire measured objective aspects, for instance the cues respondents use to assess quality, and the way they relate formal physical and performance aspects of textiles to garment quality.

This part of the study focussed on the variables obtained from the quality cues and related physical and performance aspects of textiles. Neuman (2000, 126) emphasises the variable is central to quantitative research. Quantitative research is seen as "language of variables and relationships among variables". In this study a variety of variables were identified in the literature and could be measured by using the relative dimensions and indicators in statements to make them more understandable for the respondents. The variables of this part of the study were related and gave an overview of the intrinsic aspects used to assess quality.

In the second phase of the study these objectively identified variables could be used in the development of the textile guide for online consumers of apparel products.

The aim of the third phase of the study was to explore and describe the respondents' reaction to the textile guide and in this way determine if the information obtained in the first part of the study had been successfully applied. A structured questionnaire enabled the researcher to get this total view of the respondents' assessment of the usefulness of the textile guide to assess garment quality online. Fourteen statements relating to the relative dimensions and indicators, identified in the first phase of the study, were used to make them more understandable for the respondents.
The quantitative research style ensured that the researcher was objective when viewing the respondents' assessment of quality without being actively involved. As many South African consumers seem to have a poor knowledge

of textile properties, a structured, self-administered questionnaire was the best option as it could be completed without being influenced by others.

The sample sizes for the two phases were both large enough (116 for the first phase and 200 for the last phase) for quantitative data collection. Although this method can be time-consuming to initiate, meaningful information can be acquired from many respondents in a relatively short time.

The statistical analysis of data, a characteristic of the quantitative research style, was adequate for the study as specific hypotheses were tested in the first phase of the study to determine which aspects should be included in a textile guide. This was used to achieve the sub-objectives stated for the first phase. In the second phase statistical methods were used to test the success of the textile guide developed in the second phase of the study.

The quantitative research style was suited to this study and a deductive research strategy was used. In a deductive research strategy one moves from an abstract, logical relationship among concepts towards concrete empirical evidence (Neuman, 2000, 49). This was judged to be an appropriate approach for the study and was successful because of the following reasons:

- The researcher used a cognitive and consumer behaviour theory as point of departure and could make logical deductions as a result, which enabled the researcher to develop the two questionnaires. The aspects measured by the first questionnaire regarding the cues used by respondents to assess the textile quality of garments and their ability to relate formal physical and performance properties of textiles to quality, were seen as relevant as there were responses to all the questions contained in the questionnaire. The same was true for the second questionnaire. There were therefore no questions that were judged irrelevant or unnecessary. Although the aim of the study was not to describe and explain the consumer behaviour, the theories used helped the researcher to understand and describe certain characteristics.

- Statistical methods were used to determine if the sub-objectives had been achieved. The statistical methods used and the boundaries set by the specific statistical tests, helped the researcher determine when the results were statistically significant.

- Connecting logical deductions, derived from the theory, to concrete evidence obtained from the results, solved the research problem. The importance the intrinsic textile properties when assessing quality was determined by looking at the percentage of respondents who used these cues and the arithmetic mean was used to determine overall importance of each cue. The same method was used to determine the importance of performance features when purchasing both formal and casual daywear. The importance of individual indicators of durability, comfort and ease of care, as well as the durability, comfort and ease of care ratings of samples were also indicated by the percentage of respondents that used them and the mean scores were used to indicate the overall importance of each feature. Two-way frequency tables were used to indicate which fabrics the respondents preferred for different garments. Percentages were used as indicator of how many respondents used the same rating. Statistical boundaries were set, which enabled the researcher to make logic deductions regarding the respondents' ability to relate formal physical properties of textiles to the performance and end-use serviceability.

7.3.1.1   Data collecting methods

A cover letter to explain the aim of the research accompanied the questionnaire that was sent to female staff members of the University of Pretoria via internal post. The other questionnaires and cover letters were handed out to respondents not employed by the University of Pretoria by willing colleagues, friends and other participants. In most cases all questions were answered; in a few cases one or two questions were left unanswered. By not being present, it was not possible to explain questions that caused

uncertainty, but as all respondents were adults who had tertiary education, the assumption was made that they would understand the questions. The questionnaire was also tested on a group of people with lower qualifications than the respondents, and where problems were encountered, the questions were adapted before they were given to the sample group.

The second questionnaire, the mock website containing the textile guide and instructions for use were distributed through the staff-intranet of the University of Pretoria and by using the snowball sampling technique for respondents not employed by the university.

A discussion of the validity of the data collecting techniques follows:

- **Structured questionnaire (first phase)**

This questionnaire used both closed and open questions. The closed questions were all answered, but all respondents did not react to the open questions. In Section A these questions were only used to get extra clarification regarding the aspects tested in the closed questions, and therefore it did not pose a problem if all the respondents did not answer them. Most of the open questions in section B were used in questions where more "specialised" information was required and where only respondents who had chosen a certain option were required to answer the other questions. (Here they did answer the open questions). The other open questions in Section B were, as in Section A, for extra clarification. In Section D respondents were required to give reasons for their choice after choosing a specific fabric sample for an end-use. Here there were more unanswered responses.

One of the questions in Section C could have been left out. The respondents were asked what they were willing to pay for different garments. Originally the researcher intended using these responses when compiling the textile guide, but because many respondents still seem to equate price to quality, it was decided that by adding price, this would once again be used as quality

indicator for assessing the styles on the website and one would therefore not be able to assess if the respondents used the textile information, relating to intrinsic quality related textile aspects, to compare the content of the websites.

- **Structured questionnaire (third phase)**

Here fourteen statements, related to intrinsic textile quality aspects (determined by the first phase of the study) were used to determine if the textile guide had been successful in facilitating the decision-making process. The same statements were used to evaluate the chosen South African website that the respondents were asked to compare to the website containing the guide. There were also a set of statements related to the design, technical aspects and credibility of the websites (once again the same set of statement was used to assess both websites).

Although this questionnaire (like the first one) was discussed with the statistical advisor, there are aspects that could be approved upon. If the respondents (of whom 82 % have not yet purchased garments online) were asked if they would consider doing so if similar textile information were to be supplied in future it would also have given a better insight into the success of the textile guide. Many of the "neutral" responses could be due to the fact that no matter how much textile information is supplied, these respondents still would not buy online, as shopping in a store is a pleasurable and relaxing experience as indicated by Jacobs's findings (Jacobs, 2003:123).

7.3.1.2   Sample selection

Non-probability sampling techniques were used in both phases of the study. Purposive or judgemental sampling was once again recommended, as members of a specialised population were used in this study (Neuman, 2000:198). By implication this means that the results cannot be generalised to be applicable to the larger population. The results are only indicative of the

specific group tested. For follow-up studies it is recommended that random sampling be used, that the results of this study will be taken into consideration and that enough respondents are used to generalise the results. This would be possible if enough time, funds, trained fieldworkers and willing respondents were available.

7.3.1.3   Data analysis

No respondents were forced to take part in the study and, according to Mouton (1996: 145) willing respondents increase the reliability of the study. The data was analysed using acknowledged statistical tests, and both the questionnaires and methods that would be used to analyse them were discussed with a statistician.

7.3.2 Quality of the data

The quality of the data is evaluated by referring to validity and reliability.

7.3.2.1   Validity

- **Construct validity**

Construct validity is important during the process of conceptual analysis (Mouton, 1996: 117; Trochim, 2005:51).

> **Criterion-related validity**

Convergent validity of the Likert-type scales used in the study was established by determining Cronbach's alpha coefficient for internal consistency. All the alpha values exceeded 0.70, which indicates an acceptable internal consistency (Watson & Klassen, 2004).

- **Translation validity**

  ➢   **Face validity** has to do with items seeming to measure what they claim to. This does therefore not refer to what an instrument actually measures, but what it appears to measure (Babbie & Mouton, 2001:123; Neuman, 2000: 168). The measure therefore appears relevant to those who will complete it.

    ▪ In the case of the first questionnaire, the questions all relate to the functional and performance aspects of textiles used for apparel. One set of questions relates to the use of in-home shopping (catalogue or Internet) as method of shopping.

    ▪ In the second questionnaire all fourteen content statements related to textile information or the effect the supplied information had on decision-making. The other statements relate to design, technical aspects and reliability of the website.

  ➢   **Content validity** is concerned with adequacy and representativeness. To ensure this an adequate number of items that represent each concept and actually measure the concept were used (Babbie & Mouton, 2001:123; Neuman, 2000: 168).

    ▪ Once again the questions or statements used in both questionnaires, relate to the sub-objectives of the study.

- **Scale validation**

In this study Likert-type scales were used in both questionnaires. The first step was to define the concepts that were to be measured. In the first phase of the study different sets of potential scale items were created to determine the the cues used for quality rating and for determining the indicators of durability, comfort and ease-of-care, important care label information and end-use servicability of various textiles. For the final phase of the study Disagree-Agree respons scales were used. Both questionnaires were pre-tested by a group of experts. The internal validity

and reliability of both questionnaires were determined by calculating Cronbach's alpha coeffiecient. In the first questionnaire all the alpha values for the performance properties were greater than 0.70, which is an acceptable value for internal consistency. The Cronbach alpha coefficients of the statements relating to the content of the compared websites were also determined and values larger than 0.70 were obtained, which also indicates an acceptable internal reliability and validity (Gliem & Gliem, 2003; Watson & Klassen, 2004; Trochim, 2005: 111-112).

7.3.2.2   Reliability

According to Neuman (2000, 164) reliability is an indicator of dependability or consistency. It indicates the likelihood that a given measurement technique will repeatedly yield the same description of a given phenomenon (Mouton, 1996: 144). In this study applying the following strategies ensured reliability:

- The questions used in the questionnaires were predominantly closed questions
- The questionnaires were pre-tested
- The questionnaires could be completed in a relatively short time, were easy to understand and relevant
- A cover letter explaining the objective of the study accompanied both questionnaires
- Well-established methods of data collection were used. Standard statistical coding methods were also used.
- The consistency of the responses related to durability, comfort, ease-of-care, as well as type of information sought in the first questionnaire was determined by using Cronbach's alpha coefficient.
- The consistency of the responses related to content in the second questionnaire was also determined by using Cronbach's alpha coefficient.

- **Representative sampling**

According to Mouton (1996: 136), the key concept in sampling is that the sample should be representative of the chosen population. Only then can generalisations concerning the whole population be made. The sampling frame must be representative of the target population to prevent bias.

The sampling method used for the first part of the study was purposive (judgemental sampling). This is an acceptable sampling method when the researcher wants to select a wide variety of respondents to test the broad application of the questions (Neuman, 2000: 198; Babbie & Mouton, 2001: 166). As the first phase of this study can be seen as the preliminary phase to obtain enough information to develop a usable instrument (the textile quality assessment guide) this method is acceptable.

As this sampling technique results in samples of questionable representa- tiveness, they are primarily used for exploratory studies, as is the case with this study.

Another purposive sampling technique, snowball sampling, was used in the final phase of the study. This method of sampling is appropriate, as it is an acceptable method to use when members of a specific population are difficult to locate. As still relatively few South African consumers purchase apparel on the Internet, this was judged an appropriate sampling method for this part of the study.

7.3.3   Achievement of sub-objectives and specific aims

To be able to solve the research problem as explained in Chapter 1 sub- objectives and specific aims were set for the study. Each sub-objective and specific aim was addressed in the questionnaires used in the study.

The results indicate that valuable data related to the sub-objectives and specific aims were collected. This data enabled the researcher to interpret the results and draw conclusions related to the different sub-objectives. The results, their interpretation and eventually the conclusions also made it possible to make recommendations to the apparel industry and apparel retailers (in particular those with an online presence).

From the discussion and interpretation of the results as well as the conclusions that were made, it is evident that the researcher successfully achieved the stated sub-objectives and specific aims.

Information that was obtained from the results can contribute to the existing theory on online consumer behaviour.

7.4 THE CONTRIBUTION OF THE STUDY TO EXISTING THEORY

The value of the quantitative research style used in this study is that it enables the researcher to quantify the data and to link the data to the specific concepts used in the study. The value of the research can be increased when the results are given meaning by linking them to the concepts of established theory related to the research.

The findings of this study can contribute to the following:
- Consumers' decision-making and apparel purchasing behaviour (in general and with special reference to the South African consumer)
- The specific problems that confront online apparel consumers
- Apparel retailing/ marketing on the Internet

7.4.1 Consumer decision-making and apparel purchasing behaviour

The way consumers think, the way they process information and the way they use this information, determine how decisions are made. These

decisions are preceded by a series of consecutive cognitive processes. The context within which this information is presented and the way consumers search for information can have a pronounced effect on how the information is interpreted, coded and processed (Fiske & Taylor, 1991: 348-350; Foxall & Goldsmith, 1994:27). The decision to purchase an apparel product online presupposes a decision where consumers use their cognitive structures (scripts, perceptions, expectations) to make the best possible decision (Erasmus, *et al.*, 2002; Jacobs, 2003:174). In a traditional retail setting apparel is usually assessed at the point of purchase. Due to a lack of knowledge or expertise, consumers are seldom able to make a judgement concerning in-use performance during pre-purchase evaluation of apparel products. The result is that they usually react to aesthetic stimuli that affect their emotions (Yoon & Kijewski, 1997; Brown & Rice, 1998:44, Kadolph, 1998:23; Fiore & Jin, 2003).

It is evident from the results and conclusions of this study that the career women in the research sample use textile related cues selectively when assessing quality, but have difficulty in relating the formal physical fibre and fabric properties as well as performance properties to quality. Although most consumers are mainly influenced by aesthetic properties, there are, however, a few who use certain durability and easy-care cues. Those that use these cues tend to look for visible garment properties to anticipate performance during use. In many cases the garment does not live up to expectations in post-purchase use and this usually results in dissatisfaction (Yoon & Kijewski, 1997; Brown & Rice, 1998:44, Kadolph, 1998:23). As consumers tend to lack the knowledge and expertise to assess all aspects relating to quality, they often have difficulty comparing products (Brown & Rice, 1998:45, Kadolph, 1998:23). When this happens they should ideally revert back to their existing apparel purchasing scripts. If these scripts are "incomplete" (as in the case of South African consumers who are not readily supplied with information), they react by choosing something that 'looks expensive/ professional' or that 'feels right'; their emotions then become the prime source for judging the specific product (Jacobs, 2003:145-6 ; Lubbe, 2003:122 ; Kaiser *et al.,* 2005). The findings in both the first and third phase of the study confirm this and could

contribute to a better understanding of the use of scripts for online apparel purchases. With more experience and the presence of enough textile information and visual aids, this problem can be addressed as this will enable the online consumer to adapt the apparel decision-making script over time.

To ensure satisfied customers it is essential to provide them with information to assist them in their search for information related to a specific apparel product. Sound textile information, which purposely links functional garment properties to performance, would help the female apparel purchaser to compare and evaluate different products and enable them to make justifiable choices, which could contribute to greater satisfaction. The findings of this study contribute to the understanding of the South African career woman's need for more textile information to facilitate decisions when purchasing apparel, both in-store and online (PricewaterhouseCoopers, 2000, Jacobs, 2003:177; Choi, Lee, Lee & Subramani, 2004; De Klerk & Lubbe, 2007). This study provides data from a South African context and supplements the overall understanding of consumer decision-making based on research done mainly in a U.S. or European context.

7.4.2   The online apparel consumer and specific problems they encounter

In an online environment the consumer cannot touch and handle the apparel product and must rely on other means to assess the physical aspects that influence quality. The online consumer mainly relies on aesthetics and emotional responses when making purchase decisions. They have to rely heavily on visual sensations when evaluating a product (Fiore & Jin, 2003; Mc Cabe & Nowlis, 2003; Li *et al.,* 2003; Sasaki *et al.,* 2004). The lack of complete sensory information may constrain purchase decisions.

The study represents an important step in extending the general literature on buying behaviour to the context of online shopping. The Internet consumers must, even more than conventional shoppers, rely on their cognitive structures to make the best possible choice. The information for online

apparel consumers should be presented attractively, with visual features that allow a variety of easily accessible garment options. With additional applicable textile information, this could leave the shopper with a positive frame of mind, which would in turn facilitate decision-making.

Visual stimulation and communication through various visual merchandising techniques have been important aspects in traditional retailing. Visual merchandising is a way of product presentation that communicates product concepts to the customer in order to optimise sales (Li *et al.,* 2002 & 2003; Kerfoot *et al.,* 2003; McCabe & Nowlis, 2003; Choi *et al.*, 2004; Khakimdjanova & Park, 2005). The same principles apply for online product presentation. The results of this study show that online consumers are attracted to tastefully displayed apparel products online, even if the minimum additional information is supplied. Online shoppers can often only rely on information available through images on the screen to gather information of garment quality. These results are supported by other research studies (Jacobs, 2003: 191; Kaiser *et al.,* 2005; Khakimdjanova & Park, 2005; De Klerk, Jacobs & van Heerden, 2005).

It is also evident that more should be done to supply the online consumer with information related to the tactile aspects of textiles. This could be achieved by implementing modern technology like 3-D effects, movement, and draped fabric images to enhance the online consumer's virtual experience (Fiore & Jin, 2003; Li *et al.*, 2002 & 2003; McCabe & Nowlis, 2003). Once the consumer has a clear idea of the product features, this could also contribute to the adaptation of existing or development of new apparel purchasing scripts – in this way confidence to purchase online as well as post-purchase satisfaction may increase.

There is still a shortage of research regarding online consumer behaviour and apparel decision-making, especially in a South African context. As information is central to human effectiveness, it is essential to use the highly cognitive, information-laden environment of the internet to full effect. The findings of this study can contribute to this field of consumer behaviour and decision-making in the following ways:

In the first place the findings provide a better understanding of decision-making and consumer behaviour regarding the assessment of apparel quality online. The findings indicate that online consumers need more assistance in terms of textile properties to effectively make judgements regarding specific properties and assessment of quality. They also need more information regarding performance aspects to enable them to take the right decisions and prevent post-purchase dissatisfaction. These findings corroborate similar findings by other researchers (Kinkade *et al.,* 1998; Fiore & Jin, 2003; Sasaki *et al.,* 2004) and add to the body of knowledge on online consumer decision-making.

When confronted with new and unfamiliar experiences (such as purchasing online) people revert to their memory of stored information to create schemata (scripts) to help them cope with the new experience. New information is remembered in the context of an existing script, and may 'tune' or restructure the existing script to adapt to control the new situation (Jaillet, 2002; Perry, 2004). The findings of this study underline the importance of familiarising consumers (both online and in a traditional context) with specific quality aspects regarding apparel products. The findings also correlate with Jacobs's (2003: 190-192) findings concerning the use of scripts for online apparel purchases and add more insight into the use of scripts to address the problem of the unfamiliar retail environment as well as, for instance, the lack of tactile stimulation online.

7.4.3   Apparel retailing / marketing on the Internet

Retail and marketing managers may benefit from the results reported in this study. In the South African context the findings suggest that online shoppers need more information regarding textiles used for apparel products. As Constantinides (2002a &b) and Levenburg (2005) indicate, marketing strategies must frequently be re-evaluated and improved, new E-commerce strategies developed, and as competitors also use new technologies, the

online retail environment can create new opportunities to supply effective information that will attract and 'keep' customers (Gehrt & Yan, 2004). Retailers, who are creative and able to use new technology to make the online purchasing of apparel a more pleasurable and fun experience, could ensure that their websites are revisited. This could be beneficial to both consumer and retailer (Ashworth, Schmidt, Pioch & Hallsworth, 2006).

With regard to the findings of this study, it is of the utmost importance that e-tailers realise the challenge of developing visual merchandising techniques for the Internet. They should realise the importance of clear images, interactive pages as well as the supplying of sound product information. For retailers who want to increase their online sales, it is also important to be aware of consumers' inability to visualise the combination of garments. When designing or updating websites they could consider adding suggestions for the combination of garments or supply visuals of garments mixed and matched in different ways. It is also important to keep in mind that consumers expect the image of the online store to resemble the brick-and-mortar store, and e-tailers should bear this in mind when designing their websites. Online visual merchandising will also have an important effect on the consumer's psychological and behavioural outcomes (Kerfoot *et al.*, 2003).

It is important for marketers and e-tailers to understand the needs of the online consumer and pay attention to their use of scripts, their perceptions, expectations, perceived risks and advantages of this new shopping environment. If these aspects are attended to, and effectively addressed, it could be more profitable to marketers and retailers and put fashion marketers in a much better position to meet the needs of their customers. They would also be able to build their strategies on effective ways to attract customers from competitors. If they concentrate their efforts on generating favourable perceptions of the information and products supplied, they could increase the perception of enjoyment and decrease perceptions of risk (Choi *et al.,* 2004; Forsyth, Petee & Kim, 2005).

The findings of this study support the findings of similar research studies (Choi *et al,* 2004; Jacobs, 2003:191) and can assist apparel retailers who have an online presence to gain insight into the decision-making and buying behaviour of their target markets. This may assist them to improve their websites to attract more shoppers and induce them to purchase their products.

7.5 GENERAL RECOMMENDATIONS, LIMITATIONS OF THE STUDY AND RECOMMENDATONS FOR FUTURE STUDIES

Although the conclusions made in this study cannot be generalised to the broad population, certain recommendations can be made at this stage. The following aspects are addressed:

- The South African apparel industry and apparel retailers who have a web-presence
- Limitations of this study and recommendations for future related studies

7.5.1 Recommendations with regard to the apparel industry and apparel retailers in South Africa

Retailers and manufacturers should realise the importance of supplying textile information with all apparel products. More information regarding fibres and fabrics and their properties would help the consumer when comparing fabrics and garments during the decision-making process. Better labelling, as well as more information at the point of purchase should be supplied. If confronted with the correct information in the traditional store, the consumer will become familiar with these textile related aspects and will eventually use them as part of their apparel purchasing script. As indicated by Sasaki *et al.* (2004), it is easier to visualise familiar textiles and interesting surface characteristics. If the apparel consumer is more knowledgeable regarding the formal physical and performance aspects of textiles, they would also be more

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confident to buy online and make sound purchase decisions in spite of not being able to handle the textiles.

Another aspect that could be looked into is the training of salespersons to provide good (if not expert) advice to customers who do not have textile knowledge. This would, in the long run, be beneficial to retailers with an online presence as this could also help to educate the consumer – and, as explained, more knowledgeable consumers make purchase decisions with more confidence, and will probably be more satisfied after post-purchase assessment.

It is of the utmost importance to supply the online apparel consumer with enough written information on fibre and fabric properties and how these properties relate to the performance during use, but online visual displays are also important. As the findings of this study indicated, the lack of good sensory information remains a problem and should be addressed in innovative ways. Khakimdjanova and Park (2005) suggest that viewing a garment from different angles or given extra information on mix-and-match possibilities would provide more information about the final use and look of the garment, and could reduce uncertainties about the consequences of buying a garment online.

Retailing has become more complex as it has had to meet demands of emerging technologies, as well as improve merchandising and online marketing. As new technologies develop, retailers will be faced with even greater challenges to stay competitive and should create and exploit opportunities to satisfy their online customers (Koontz & Gibson, 2002). E-tailers need to develop techniques that help shoppers 'examine' garments and give them the confidence to make sound decisions in the online environment. With more potential consumers gaining access to the Internet, it has become very important to study online consumer decision-making, also in terms of website design. As the Internet is an extremely dynamic environment, it is important to keep abreast of technological developments, but also to keep the expertise (or lack of it) in mind when planning and

redesigning websites in such a way that consumers are attracted and feel confident to purchase online. It is however also important not to overload the cognitive capacity of the consumer, which could frustrate in stead of help with decision-making (Xia & Sudharsham, 2002).

7.5.2 Limitations of the study and recommendations for future research

It should be noted that there are certain limitations to this research that also provide a basis for further research. Online shopping in South Africa is still a new phenomenon. The results of the study were based on responses of a sample of consumers of whom only 18 % have already purchased apparel online. If similar research was to be done, and only consumers who buy online included, the results could look different.

Another limitation is that the respondents were only asked to compare a mock website containing a textile guide to an existing South African website. If they were asked if they would consider buying online if this type of information were supplied, insight could have been obtained about their willingness to venture into this unfamiliar shopping environment.

The problem of supplying the consumer with a better idea of fabric hand could be addressed by using more than one continuum of formal texture qualities. Only one continuum was used in this study and it only addressed the draping quality of the different fabrics. Fiore and Kimle (1997: 163) adapted the KES system developed by Kawabata (Kawabata *et al*., 1999) and included pliability, softness, stretchiness, compactness, smoothness, coolness, thickness, dullness, springiness, and harshness paired with their opposites at the other end of the continuum. By using all or selecting three to four paired properties, the consumer would have probably been able to make a better assessment of fabric handle.

The sample used in this study, unintentionally were predominantly white Afrikaans career women. As the latest survey of South African web users indicates that online buyers tend to be English speaking consumers an effort

should be made to include more English speaking respondents in future studies. This would to a certain extent attract more of the younger black South African consumers who also tend to fall in this category (Webchek: Archive – Online shopping trends, 2006). Although almost half of South African web users are aged between 25 and 44, the number of older web users is steadily increasing (10 % in 2002 to 16% in 2005) – studies using the older online consumer could show interesting results.

As little is yet known about the scripts of online apparel purchasers, research to determine how online apparel purchasers perceive and interpret the 'messages' supplied by apparel e-tailers, could help in the development of apparel retail websites. Stimuli, to which consumers could respond, could play a role in the establishment of online apparel purchasing scripts. This could help to overcome the resistance to use this relatively new shopping environment.

Finally, the aim of the study was to understand and describe the use of textile related cues by career women and to develop a textile guide that would help them in online decision-making. In spite of the limitations mentioned, and possibilities to improve on the information contained in the guide, the results of this study can be seen as a starting point to improve the South African consumers' online experience and provide them with more confidence to purchase online and be satisfied with these purchases.

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APPENDIX 1

A. **Cover letter (Phase 1)**

B. **Questionnaire (Phase 1)**

C. **Samples (Assessed in Section D of questionnaire)**
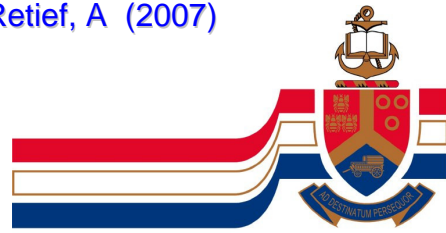
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University of Pretoria

Natural and Agricultural Sciences

Dear Career woman

I am doing research to determine how consumers assess quality when buying clothes suitable for formal day / office wear as well as clothes for more informal occasions. One of the outcomes of this research is to develop a consumer's guide to facilitate the assessment of fabric quality.

I would therefore value your opinion and would appreciate it if you could find time in your busy programme to help me by completing the enclosed questionnaire. The questionnaire consists of two parts. The first part should take approximately 10 – 15 minutes to complete. The second part, accompanied by samples, should take between 20 and 25 minutes to complete. There are no right or wrong answers; I am interested in *your* opinion and experience.

I would appreciate it very much if you could return the questionnaire and samples to the person who gave them to you within three days. Thank you for the courtesy of your assistance.

Very sincerely yours.

Arda Retief
Lecturer.
Department of Consumer Science

The assessment of the quality of outer garments for formal day and informal casual wear

For office use

Respondent number

| | V1 | | | 1-3 |

Answer the questions by making a cross (X) in the appropriate block or by writing your response in the space provided

Section A

1. Indicate the importance of each of the following aspects as indicators of **quality** when shopping for clothing.
   Please use the following scale to indicate the importance of each aspect.

	Very important	Important	Slightly important	Not important			
Price					V2		4
Fibre type					V3		5
Fabric texture					V4		6
Brand					V5		7
Fabric structure					V6		8
Care procedure					V7		9
Attention to detail					V8		10
Fabric suitable to end-use					V9		11
Type of finish on fabric					V10		12

Are there any other features that *you* use to determine the quality of a clothing item? Please list these features:

		V11		13
		V12		14

2.a When purchasing garments for **formal daywear**, which of the following features do *you* consider to be the most important?
   Arrange the following four features in order of importance. Assign the numbers 1 to 4 in the open spaces next to each feature. Number 1 indicates the most important feature, 2 the second most important one, etc. (Please assign all 4 numbers. Each number may only be used once)

Comfort		V13		15
Easy-care		V14		16
Durability		V15		17
Appearance		V16		18

2b. When purchasing garments for **casual wear**, which of the following features do *you* consider to be the most important?
   Arrange the following four features in order of importance. Assign the numbers 1 to 4 in the open spaces next to each feature. Number 1 indicates the most important feature, 2 the second most important one, etc. (Please assign all 4 numbers. Each number may only be used once)

Comfort		V17		19
Easy-care		V18		20
Durability		V19		21
Appearance		V20		22

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3. When shopping for clothes, how often do you read the stitched-in labels or hang tags?

a. Always	
b. Often	
c. Seldom	
d. Never	

V21 [ ] 23

If you chose a or b, please answer all the following questions. If you chose c or d, please go to question 4 (p 3)

3.1 Stitched in labels and hang tags vary in the type of information they give the consumer. When shopping for **formal daywear**, how important do *you* find the following types of information. Please use the following scale to rate the importance of each type of information

Formal office wear

Type of information on label/ tag	Very important	Important	Slightly important	Not important		
Fibre content					V22 [ ]	24
Brand name					V23 [ ]	25
Care instructions					V24 [ ]	26
Additional information about fabric or garment features					V25 [ ]	27
Price					V26 [ ]	28
Size					V27 [ ]	29

3.2 When shopping for **casual wear**, how important do *you* find the following types of information. Please use the following scale to rate the importance of each type of information

Casual wear

Type of information on label/ tag	Very important	Important	Slightly important	Not important		
Fibre content					V28 [ ]	30
Brand name					V29 [ ]	31
Care instructions					V30 [ ]	32
Additional information about fabric or garment features					V31 [ ]	33
Price					V32 [ ]	34
Size					V33 [ ]	35

3.3 Which other label information would *you* find useful?

V34 [ ] 36

3.4 Do you want to know what the fibre content of a fabric is?

Yes, I would like all labels to give this information	
I feel neutral; it doesn't really matter if the fibre content is given or not	
No, to me this information means nothing	

V35 [ ] 37

3.5 If you chose "yes", please complete the sentence below:

I use the fibre information to

V36 [ ] 38
V37 [ ] 39

4.1 When buying garments for **formal daywear**, which of the following features do *you* use as indicators of **durability** (how long it will last)? Use the scale to indicate how often *you* use these features

Feature	Always	Sometimes	Seldom	Never
Resistance to abrasion (forming of little balls on surface)				
Closeness of weave or knit				
Elastic recovery (recovery from stretch)				
Resistance to snagging ("pulling-up" of surface yarns)				
Fabric fineness				
Thickness of yarn used				

V38		40
V39		41
V40		42
V41		43
V42		44
V43		45

Are there any other features you use as indicators of durability when buying garments for formal daywear?

V44		46
V45		47

4.2 When buying garments for **casual wear**, which of the following features do *you* use as indicators of **durability**? Use the scale to indicate if you use these features

Feature	Always	Sometimes	Seldom	Never
Resistance to abrasion (forming of little balls on surface)				
Closeness of weave or knit				
Elastic recovery (recovery from stretch)				
Resistance to snagging ("pulling-up" of surface yarns)				
Fabric fineness				
Thickness of yarn used				

V46		48
V47		49
V48		50
V49		51
V50		52
V51		53

Are there any other features you use as indicators of durability when buying garments for casual wear?

V52		54

5.1 When buying garments for **formal daywear**, which of the following features do *you* use as indicators of **comfort**? Use the scale to indicate if you use these features

Feature	Always	Sometimes	Seldom	Never
Cool on skin (as opposed to sweaty/ clammy)				
Soft and smooth				
Absorbent				
Lightweight (as opposed to bulky)				
Stretchy (a fabric that moves with the body)				
Openness of weave or knit				

V53		55
V54		56
V58		57
V56		58
V57		59
V58		60

Are there any other features you use as indicators of comfort when buying garments for formal daywear?

V59		61

5.2   When buying garments for **casual wear**, which of the following features do *you* use as indicators of **comfort**? Use the scale to indicate if you use these features

Feature	Always	Sometimes	Seldom	Never			
Cool on skin (as opposed to sweaty/ clammy)					V60		62
Soft and smooth					V61		63
Absorbent					V62		64
Lightweight (as opposed to bulky)					V63		65
Stretchy (a fabric that moves with the body)					V64		66
Openness of weave or knit					V65		67

Are there any other features you use as indicators of comfort when buying garments for casual wear?

					V66		68

6.1 When buying garments for **formal daywear**, which of the following features do *you* see as the most important **easy-care features**? Use the scale to indicate if you use these features

Feature	Always	Sometimes	Seldom	Never			
Soil resistance (does not attract dirt)					V67		69
No static build-up (does not cling)					V68		70
Wrinkle resistance (sheds wrinkles and creases)					V69		71
Heat resistance (does not melt when ironed)					V70		72
Stain resistance					V71		73
Colourfastness (fading slight; colours don't bleed in wash)					V72		74
Machine washable					V73		75
Tumble dryable					V74		76
Little or no ironing					V75		77
Good shape retention (resistance to stretch or shrinkage)					V76		78

Are there any other features you use as indicators of ease of care when buying garments for formal daywear?

					V77		79

6.2 When buying garments for **casual wear**, which of the following features do *you* see as the most important **easy-care features**? Use the scale to indicate if you use these features

Feature	Always	Sometimes	Seldom	Never			
Soil resistance (does not attract dirt)					V78		80
No static build-up (does not cling)					V79		81
Wrinkle resistance (sheds wrinkles and creases)					V80		82
Heat resistance (does not melt when ironed)					V81		83
Stain resistance					V82		84
Colourfastness (fading slight; colours don't bleed in wash)					V83		85
Machine washable					V84		86
Tumble dryable					V85		87
Little or no ironing					V86		88
Good shape retention (resistance to stretch or shrinkage)					V87		89

Are there any other features you use as indicators of ease of care when buying garments for casual wear?

	V88 90

7. Please list *any other* aspects you consider to be important when purchasing clothes

	V89 91
	V90 92
	V91 93
	V92 94

SECTION B

1.Have you ever purchased clothing from a catalogue?	Yes	No	V93	95
2. Have you ever purchased clothing from the Internet?	Yes	No	V94	96
3. Would you ever consider buying clothing from the Internet?	Yes	No	V95	97

If your answer was YES in 1 or 2, please answer all the following questions.
If your answer was NO in 1 and 2, but YES in 3, please go to question 7.

4. Do you assess a garment offered in a catalogue / on the internet differently to one you buy in a shop where you are face-to-face with the product?	Yes	No	V96 98

5. If your answer is YES, please explain what you do differently?

	V97 99
	V98 100

6. What problems have you encountered with distance shopping?

	V99 101
	V100 102

7. Would you consider doing distance shopping if provided with more product information?	Yes	No	V101 103

8. What type of information would be helpful?

Type of information	Extremely helpful	Helpful	Moderately helpful	Not necessary		
Fibres and their properties					V102	104
The effect the yarns can have on fabric properties					V103	105
Fabric performance during use					V104	106
Fabric performance during fabric care					V105	107
The effect special finishes have on fabric properties and performance					V106	108

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List any other information that you would find helpful when purchasing garments.						
					V107	109
					V108	110

Section C: Demographic information

Please provide the following information:

1. Age

25 – 29 years old	
30 – 34 years old	
35 – 40 years old	

V109   111

2. Qualifications (highest qualification only)

Post-school certificate/ diploma	
National diploma/ Higher diploma	
Degree or equivalent	

V110   112

3. Price class you are willing to pay for more formal daywear

Three piece suit (jacket, top, skirt or pants)	< R 500	R 500 - 799	R 800 - 1000	> R 1 000	V111	113
Tailored jacket	< R 250	R 250 - 499	R 500 - 600	> R 600	V112	114
Skirt / pants	< R 150	R 150 - 199	R 200 - 250	> R 250	V113	115
Blouse / shirt / top	< R 100	R 100 - 179	R 180 - 220	> R 220	V114	116

4. Price class you are willing to pay for casual wear

Jacket	< R 200	R 200 - 299	R 300 - 500	> R 500	V115	117
Skirt/ pants	< R 120	R 120 - 179	R 180 - 200	> R 200	V116	118
Top	< R 100	R 100 - 179	R 180 - 200	> R 200	V117	119
T-shirt	< R 60	R 60 - 119	R 120 - 200	> R 200	V118	120

Thank you very much for doing this part of the questionnaire. Would you please do Section D on pp. 7-9 as well?

Section D
The following questions must be answered after you have looked at and handled the fabric samples, and read the additional information supplied

1.1 The first set of samples, marked 1A, 1B, etc. are all **medium weight** woven fabrics. Which fabric would *you* rate as the one with the best **durability**? Assign numbers to all the fabrics to indicate the best to the poorest durability (1 = best durability, 2 = second best, etc.) Please assign a number to each fabric

Fabric 1A		V119		121
Fabric 1B		V120		122
Fabric 1C		V121		123

1.2 The next set of samples, marked 2A, 2B, etc. are all **lightweight** woven fabrics. Which fabric would *you* rate as the one with the best **durability**? Assign numbers to all the fabrics to indicate the best to the poorest durability (1 = best durability, 2 = second best, etc.) Please assign a number to each fabric

Fabric 2A		V122		124
Fabric 2B		V123		125
Fabric 2C		V124		126

1.3 The following set of samples, marked 3A, 3B, etc. are all **knitted** fabrics. Which fabric would *you* rate as the one with the best **durability**? Assign numbers to all the fabrics to indicate the best to the poorest durability (1 = best durability, 2 = second best, etc.) Please assign a number to each fabric

Fabric 3A		V125		127
Fabric 3B		V126		128
Fabric 3C		V127		129

1.4 When rating the above fabrics, which indicators did you use to rate the fabrics. (What helped you to decide that the one fabric would be more durable than the others?) Please arrange these indicators by assigning numbers to indicate the most important to the least important indicator (3 or 4 depending on how many indicators are listed)

		V128		130
		V129		131
		V130		132
		V131		133

Use the same samples sets for the following questions

2.1 The first set of samples, marked 1A, 1B, etc. are all **medium weight woven** fabrics. Which fabric would *you* rate as the one that will be the most **comfortable**? Assign numbers to all the fabrics to indicate the most to the least comfortable (1 = most comfortable, 2 = second best, etc.) Please assign a number to each fabric

Fabric 1A		V132		134
Fabric 1B		V133		135
Fabric 1C		V134		136

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2.2 The next set of samples, marked 2A, 2B, etc. are all **lightweight** woven fabrics. Which fabric would *you* rate as the one that will be the most **comfortable**? Assign numbers to all the fabrics to indicate the most to the least comfortable (most to the least comfortable, 2 = second best, etc.) Please assign a number to each fabric

Fabric 2A		V135		137
Fabric 2B		V136		138
Fabric 2C		V137		139

2.3 The following set of samples, marked 3A, 3B, etc. are all **knitted** fabrics. Which fabric would *you* rate as the one that will be the most **comfortable**? Assign numbers to all the fabrics to indicate the most to the least comfortable (most to the least comfortable, 2 = second best, etc.) Please assign a number to each fabric

Fabric 3A		V138		140
Fabric 3B		V139		141
Fabric 3C		V140		142

2.4 When rating the above fabrics, which indicators did you use to rate the fabrics. (What helped you to decide that the one fabric would be more comfortable than the others?) Please arrange these indicators by assigning numbers to indicate the most important (1) to the least important indicator (3 or 4 depending on how many indicators are listed)

		V141		143
		V142		144
		V143		145
		V144		146

Once again, use the samples as well as the additional information supplied to decide which fabric should have easy-care properties and which fabric would require more care procedures

3.1 The first samples, marked 1A, 1B, etc. are all **medium weight woven fabrics**. Which fabric do *you* think will have **easy care properties**, and which will require more procedures? Rate the fabrics from the one you think will have the most easy-care properties to the one with the least easy-care properties (1 = fabric with most easy-care properties, 2 = second most, etc)

Fabric 1A		V145		147
Fabric 1B		V146		148
Fabric 1C		V147		149

3.2 The next set of samples, marked 2A, 2B, etc. are all **lightweight woven fabrics**. Which fabric do *you* think will have **easy care properties**, and which will require more procedures? Rate the fabrics from the one you think will have the most easy-care properties to the one with the least easy-care properties (1 = fabric with most easy-care properties, 2 = second most, etc)

Fabric 2A		V148		150
Fabric 2B		V149		151
Fabric 2C		V150		152

3.3 The following set of samples, marked 3A, 3B, 3C, etc. are all **knitted fabrics**. Which fabric do *you* think will have **easy care properties**, and which will require more procedures? Rate the fabrics from the one you think will have the most easy-care properties to the one with the least easy-care properties (1 = fabric with most easy-care properties, 2 = second most, etc)

Fabric 3A		V151		153
Fabric 3B		V152		154
Fabric 3C		V153		155

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3.4 When rating the above fabrics, what indicators did you use to rate the fabrics?
Please also arrange them in the order from most important indicator (1) to the least important.

	V154		156
	V155		157
	V156		158
	V157		159

Once again use the same samples

4.1 Indicate which fabric in sample sets 1, 2, or 3 *you* would *most* likely choose for a suit (jacket, skirt/ pants) for **formal daywear**? Choose only *one* fabric.

Fabric	1A	1B	1C	2A	2B	2C	3A	3B	3C

V158 | | 160

Please give reasons for your preference

V159 | | 161
V160 | | 162

4.2 Indicate which fabric *you* will *most* likely choose for a blouse/ shirt/ top for **formal day wear**. Choose only *one* fabric.

Fabric	1A	1B	1C	2A	2B	2C	3A	3B	3C

V161 | | 163

Please give reasons for your preference

V162 | | 164
V163 | | 165
V164 | | 166

4.3 Indicate which fabric in samples sets 1,2 and 3 *you* would *most* likely choose for a pair of slacks or a skirt for **casual wear.** Choose only *one* fabric.

Fabric	1A	1B	1C	2A	2B	2C	3A	3B	3C

V165 | | 167

Please give reasons for your preference

V166 | | 168
V167 | | 169
V168 | | 170

4.4 Indicate which fabric in sample sets 1, 2 and 3 *you* would *most* likely choose for a blouse/ shirt/ top for **casual wear**. Choose only *one* fabric.

Fabric	1A	1B	1C	2A	2B	2C	3A	3B	3C

V169 | | 171

Please give reasons for your preference

V170 | | 172
V171 | | 173
V172 | | 174

4.5 Indicate which fabric in sample sets 1, 2 and 3 *you* would *most* likely choose for a jacket for **casual wear**. Choose only *one* fabric.

Fabric	1A	1B	1C	2A	2B	2C	3A	3B	3C

V173 | | 175

Please give reasons for your preference

V174 | | 176
V175 | | 177
V176 | | 178

Thank you very much for your time and effort!

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Samples used in the first phase of the study

Section D / Afdeling D:

Sample set 1 / Monsterstel 1
All the samples in this set are medium weight woven fabrics /
Al drie die kleedstowwe is mediumgewig geweefde stowwe.

Fabric 1A / Kleedstof 1A:
A medium weight twill weave, polyester/ viscose blend.
The fabric is available in a variety of fashion colours (mostly dark colours)/

'n Medium gewig keperbinding, poliëster / viskose mengel.
Beskikbaar in 'n verskeidenheid mode-kleure (meestal donker kleure)

Fabric 1B / Kleedstof 1B:
A medium weight balanced plain weave, 100% polyester

'n Medium gewig gebalanseerde effebinding, 100% poliëster

Fabric 1C / Kleedstof 1C:
A medium weight plain weave with uneven yarns, 100% polyester

'n Medium gewig effebinding met onegalige garingdikte, 100% poliëster

Sample set 2 / Monsterstel 2
All the samples in this set are lightweight woven fabrics /
Al drie die kleedstowwe is liggewig geweefde stowwe.

Fabric 2A / Kleedstof 2A:
A lightweight balanced plain weave, polyester/
cotton blend.
The fabric is available in a variety of fashion
colours

'n Liggewig gebalanseerde effebinding, poliëster
/ katoen
Beskikbaar in 'n verskeidenheid mode kleure

Fabric 2B / Kleedstof 2B:
A lightweight plain weave, 100% viscose rayon

'n Liggewig effebinding, 100% viskose rayon

Fabric 2C / Kleedstof 2C:
A lightweight plain weave with crinkle effect
finish, 100 % viscose rayon

'n Liggewig effebinding met kreukeleffek
afwerking, 100% viskose rayon

Sample set 3 / Monsterstel 3
All the samples in this set are all knitted fabrics /
Al drie die kleedstowwe is gebreide stowwe.

Fabric 3A / Kleedstof 3A:
A medium weight double knit, 100% polyester.
The fabric is available in a variety of fashion
colours

'n Medium gewig dubbelbrei, 100% poliëster.
Beskikbaar in 'n verskeidenheid mode kleure

Fabric 3B / Kleedstof 3B:
A single jersey knit, a cotton / Lycra blend

'n Enkelbrei truistof, katoen / Lycra meng

Fabric 3C / Kleedstof 3C:
A lacey jersey knit (also available in ecru)

'n Kantpatroon truistof (ook beskikbaar in ecru)

APPENDIX 2

A.   **Cover letter (Phase 3)**

B.   **CD and instructions**

C.   **Questionnaire (Phase 3)**
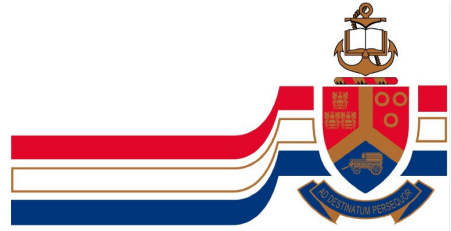
University of Pretoria

Pretoria 0002 Republic of South Africa
http://www.up.ac.za

Natural and Agricultural Sciences

An interesting and important project!

I am a lecturer in the Department of Consumer Science at the University of Pretoria and am doing a research project regarding the textile information we, as career women, need in order to be able to make informed decisions about the performance aspects of textiles (such as durability, comfort, and easy-care properties) when we buy clothes, especially when we buy on line (the Web).

I urgently need your help, whether you are an online buyer or not. The results will also be used to inform retailers of the type of information that the South African career woman expects on the labels attached to the clothes she buys, as well as the type of information an online buyer needs to make an informed decision.

If you are willing to participate, a CD, that contains a mock website, has been supplied. Follow the instructions on the instruction page and please keep in mind that the research is on textile information that is supplied to consumers, and not the appearance of the website! The idea is that you look at the information supplied on the CD website and assess whether it is enough to help one make a purchase decision. No prices or sizes are supplied on the CD, as these aspects do not form part of the study (on an actual website price and size would be added). When you have looked at the information supplied on the CD website, I would appreciate it if you would access a South African clothing retail website to assess the information that they supply (a list of web addresses is supplied on the instruction sheet). Once again you must only assess the amount and type of textile information supplied (if any!)

All the information obtained will be confidential, but if you would like feedback on the results, please add your name and address to the bottom of the questionnaire (p3). I really appreciate your co-operation and am sure that I will be able to give you valuable feedback.

Thank you for taking part.

Kind regards.
Arda Retief

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CD containing the mock website

Instructions for use of CD

This website will open in **Windows Explorer**. (On older computers the photographs may shift out of their frames).
Use the '**My Computer'** icon and open the **D-drive**. Double click on the **Textile Survey** folder icon. If icons appear, click View and choose List.

Look for '**Index2.htm'** with the **Internet Explorer icon**, (you will have to scroll down quite a bit as the files are alphabetically arranged!!). Double click. This should open the disk in the browser and give you the Home page of the mock website.
You can click on the inter-active buttons (tops, skirts or pants) to access the available styles. Please remember, this is not a "real" website – it is what I could manage to come up with after doing a web-based tutorial. Please do not compare the look to an actual website; the idea is that you assess the **content and type of information** given and compare that to the **content and information** on a chosen South African retail website. (A list is supplied below).
From the Home page you can choose 'Tops', 'Skirts' or 'Pants'.
If you are on the 'Tops' page and want to go to the textile guide, click on 'Guide' under the style you like. There are buttons on each page that will take you back to the page with all the styles. There is also a page to give you more information on how the textile would feel ("Fabric hand" on the information pages). You will see that you can go back to the information page of that style and from there back to the page with all the top styles.
Now you can click on skirts and repeat the process for all the available skirt styles.
The whole process can once again be repeated for the pants styles.

You can choose **one** of the following South African websites to compare with the site on disc. After doing this, please complete the questionnaire (please read next paragraph).

After playing around with the website on the CD and the South African site you accessed, you can go back to the files page. Look for 'Questionnaire' or 'Vraelys' (all files are alphabetically arranged) in the files list. The questionnaire is a word file. Please save it to your hard disc, complete either the English or Afrikaans questionnaire and e-mail it to me at one of the following addresses: arda.retief@up.ac.za or kambroo@mweb.co.za. If you have a problem while taking part, please call me at 420 3784 (from 08:00 to 15:30) or at 082 874 0800

Choose one of the following South African websites:

http://www.edgars.co.za/Catalog/
 Click on 'Shop online' and choose either 'On Trend' or 'On Promotion'. You can double click on the pictures for a larger view or more information.

http://www.foschini.co.za/
Be patient, this site takes quite long to load. Follow instructions on web page.

http://www.queenspark.com/
Mouse over pictures for larger view and more information

http://www.truworths.co.za/shop/
Here you must also choose the 'Shop online' option, and then 'fashion basics – women' or 'Daniel Hechter'. You can then click on the product for a larger image and more information.

http://www.woolworths.co.za/
Click on 'Clothing & accessories'. You can look at 'winter must haves', but these items are not available online. If you go to 'Women', you have the option to buy underwear (vests). You can click on one of these items to see which extra information is provided with the items that are for sale online.

Thank you very much for taking part in this project!

The assessment of the online textile guide

For office use

Respondent number

Answer the questions by making a cross (X) in the appropriate block

Section A: Aspects concerning the textile quality assessment guide

Please use the following scale to indicate how you feel about each aspect. Indicate if you disagree, if you feel neutral, or if you agree with the following statements.

| V1 | | 1-3 |

Content	Disagree	Neutral	Agree			
1. The information is easy to understand				V2		4
2. The illustrations helped me to visualise the garment				V3		5
3. The additional information on style helped me to form a good idea of the garment				V4		6
4. The additional information on tactile aspects helped me to form a good idea of how the fabric would feel.				V5		7
5. The guide gave me a good understanding of fibre properties that add to durability				V6		8
6. The guide gave me a good understanding of fibre properties that add to comfort				V7		9
7. The guide gave me a good understanding of fibre properties that add to ease of care				V8		10
8. The guide contains information on fabrics and their properties that helped me make a purchase decision				V9		11
9. The guide contains information on applied finishes and their properties helped me make a purchase decision				V10		12
10. The care symbols together with care instructions helped me to form a good idea of the care procedures involved				V11		13
11. Descriptions as well as a photographic image of each garment give me a good idea of the appearance of the garment				V12		14
12. The description of the fabric gives me a good idea of the fabric hand (how it feels)				V13		15
13. The guide facilitates decision-making				V14		16
14. The information in the guide helped me to make a decision about the overall quality of the product(s)				V15		17

Indicate if you agree or disagree with the following aspects

Design	Disagree	Agree			
15. It is easy to navigate between the style pages and the different clothing items.			V16		18
16. The information on the style and properties is concise and to the point			V17		19
17. The site is interactive and there are links between the different clothing items			V18		20
18. It is easy to compare the properties of the different offerings			V19		21
19. The variety offered is big enough			V20		22

Technical elements	Disagree	Agree			
20. All the links work smoothly			V21		23
21. The pages are interlinked and easy to access			V22		24
22. The graphics download quickly			V23		25

Credibility	Disagree	Agree			
23. The styles are fashionable			V24		26
24. The pages are all recently updated; contact number is indicated			V25		27

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Section B: Aspects concerning the textile content of a chosen South African website

Please use the following scale to indicate how you feel about each aspect. Indicate if you disagree, if you feel neutral, or if you agree.

Content	Disagree	Neutral	Agree			
1. The information is easy to understand				V26		28
2. The illustrations helped me to visualise the garment				V27		29
3. There is enough additional information on style to help me form a good idea of the garment				V28		30
4. There is enough additional information on tactile aspects to help me form an impression regarding fabric hand ("feel")				V29		31
5. The web site gave me a good understanding of fibre properties that add to durability				V30		32
6. The web site gave me a good understanding of fibre properties that add to comfort				V31		33
7. The web site gave me a good understanding of fibre properties that add to ease of care				V32		34
8. The website contains information on fabrics and their properties that helped me make a purchase decision				V33		35
9. The web site contains information on applied finishes and their properties that helped me make a purchase decision				V34		36
10. Care symbols together with care instructions are supplied to help with care procedures				V35		37
11. Descriptions, as well as a photographic image of each garment give me a good idea of the appearance of the garment				V36		38
12. There is a description of the fabric that gives me a good idea of the fabric hand (how it feels)				V37		39
13. The web site facilitates decision-making				V38		40
14. The information supplied on the web site helped me to make a decision about the overall quality of the product(s)				V39		41

Indicate if agree or disagree with the following aspects

Design	Disagree	Agree			
15. It is easy to navigate between the home page and the different clothing items.			V40		42
16. The information on the style and properties is concise and to the point			V41		43
17. The site is interactive and there are links between the different clothing items			V42		44
18. It is easy to compare the properties of the different offerings			V43		45
19. The variety offered is big enough			V44		46

Technical elements	Disagree	Agree			
20. All the links work smoothly			V45		47
21. The pages are interlinked and easy to access			V46		48
22. The graphics download quickly			V47		49

Credibility	Disagree	Agree			
23. The styles are fashionable			V48		50
24. The pages are all recently updated; a contact number is indicated			V49		51

Now that you have accessed both web sites, please rate them as follows: Choose 1 if you think that very little information is supplied to help with decision-making, 2 if you feel that the amount of information supplied did not affect your decision-making, and 3 if the information given definitely helped with decision-making

Comparison of content	1	2	3			
25. Web site with textile guide (the web site on CD)				V50		52
26. The one South African web site I accessed				V51		53

Please indicate which South African web site you accessed

27.				V52		54

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APPENDIX 3

A.   **Original coding of the results of the third phase of the study**

B.   **Recoded results of the third phase of the study**

A.   Original coding of the results of the third phase of the study

Questions 1-14 of both Sections A and B of the questionnaire

	Frequency Percentage	South African websites				Aspects relating to content
		Disagree	Neutral	Agree	Total	
Website containing textile guide	Neutral	0 0.00	3 1.50	0 0.00	3 1.50	Information supplied easy to understand
	Agree	4 2.00	23 11.50	170 85.00	197 98.50	
	Total	4 2.00	26 13.00	170 85.00	200 100.00	
	Disagree	0 0.00	0 0.00	1 0.50	1 0.50	Illustrations help to visualise garment
	Neutral	0 0.00	5 2.50	47 23.50	52 26.00	
	Agree	8 4.00	22 11.00	117 58.50	147 73.50	
	Total	8 4.00	27 13.50	165 82.50	200 100.00	
	Neutral	8 4.00	10 5.00	0 0.00	18 9.00	Additional style information helps visualise the garment
	Agree	99 49.50	64 32.00	19 9.50	182 91.00	
	Total	107 53.50	74 37.00	19 9.50	200 100.00	
	Neutral	51 25.50	3 1.50	- -	54 27.00	Tactile information helps to form an idea of fabric hand
	Agree	135 67.50	11 5.50	- -	146 73.00	
	Total	186 93.00	14 7.00	- -	200 100.00	
	Neutral	32 16.00	4 2.00	- -	36 18.00	Effect of fibre property information on understanding durability
	Agree	159 79.50	5 2.50	- -	164 82.00	
	Total	191 95.50	9 4.50	- -	200 100.00	
	Neutral	18 9.00	0 0.00	1 0.50	19 9.50	Effect of fibre property information on understanding comfort
	Agree	175 87.50	6 3.00	0 0.00	181 90.50	
	Total	193 96.50	6 3.00	1 0.50	200 100.00	
	Neutral	1 0.50	0 0.00	1 0.50	2 1.00	Effect of fibre property information on understanding ease of care
	Agree	187 93.50	4 2.00	7 3.50	198 99.00	
	Total	188 94.00	4 2.00	8 4.00	200 100.00	
	Neutral	47 23.50	7 3.50	- -	54 27.00	Effect of fabric property information on decision-making
	Agree	133 66.50	13 6.50	- -	146 73.00	
	Total	180 90.00	20 10.00	- -	200 100.00	

Neutral	20 10.00	1 0.50	1 0.50	22 11.00	Effect of applied finish information on decision-making
Agree	165 82.50	13 6.50	0 0.00	178 89.00	
Total	185 92.50	14 7.00	1 0.50	200 100.00	
Neutral	4 2.00	0 0.00	0 0.00	4 2.00	Effect of care symbols and care instructions on decision-making
Agree	180 90.00	2 1.00	14 7.00	196 98.00	
Total	184 92.00	2 1.00	14 7.00	200 100.00	
Neutral	3 1.51	0 0.00	3 1.51	6 3.02	Effect of the combination of descriptions and photographs on visualisation of the garment
Agree	83 41.70	62 31.16	48 24.12	193 96.98	
Total	86 43.21	62 31.16	51 25.63	199 100.00	
Neutral	56 28.00	1 0.50	0 0.00	57 28.50	Effect of fabric description on assessing fabric hand
Agree	135 67.50	4 2.00	4 2.00	143 71.50	
Total	191 95.50	5 2.50	4 2.00	200 100.00	
Neutral	9 4.50	19 9.50	0 0.00	28 14.00	Information facilitates decision-making
Agree	58 29.00	111 55.50	3 1.50	172 86.00	
Total	67 33.50	130 65.00	3 1.50	200 100.00	
Neutral	40 20.00	34 17.00	- -	74 37.00	Information helps decision about overall quality
Agree	98 49.00	28 14.00	- -	126 63.00	
Total	138 69.00	62 31.00	- -	200 100.00	

Original values: Question 25 and 26 (Section B of questionnaire)

Frequency Column % % (N = 200)		South African websites: amount of information supplied			
		Too little	Not enough to change	Definitely helped	Total
Website containing textile guide	Not enough to change	18 14.3	22 30.6	1 50.0	41 20.5
	Definitely helped	108 85.7	50 69.4	1 50.0	159 79.5
	Total	126 63.0	72 36.0	2 1.0	200 100.0

B.   Recoded results of the third phase of the study

Questions 1-14 of both Sections A and B of the questionnaire

Frequency Percentage	Website containing textile guide	South African websites	**Aspects relating to content**
Disagree +neutral	3 1.5	30 15.0	Information supplied easy to understand
Agree	197 98.5	170 85.0	
Disagree +neutral	53 26.5	35 17.5	Illustrations help to visualise garment
Agree	147 73.5	165 82.5	
Disagree +neutral	18 9.0	181 91.0	Additional style information helps visualise the garment
Agree	182 91.0	19 9.5	
Disagree +neutral	54 27.0	0 0.0	Tactile information helps to form an idea of fabric hand *
Agree	146 73.0	0 0.0	
Disagree +neutral	36 18.0	0 0.0	Effect of fibre property information on understanding durability*
Agree	164 82.0	0 0.0	
Disagree +neutral	19 9.5	199 99.5	Effect of fibre property information on understanding comfort
Agree	181 90.5	1 0.5	
Disagree +neutral	2 1.0	192 96.0	Effect of fibre property information on understanding ease of care
Agree	198 99.0	8 4.0	
Disagree +neutral	54 27.0	0 0.0	Effect of fabric property information on decision-making*
Agree	146 73.0	0 0.0	
Disagree +neutral	22 11.0	199 99.5	Effect of applied finish information on decision-making
Agree	178 89.0	1 0.50	
Disagree +neutral	4 2.0	186 94.0	Effect of care symbols and care instructions on decision-making
Agree	196 98.0	14 7.0	
Disagree +neutral	6 3.0	148 74.0	Effect of the combination of descriptions and photographs on visualisation of the garment
Agree	194 97.0	51 25.5	
Disagree +neutral	56 28.0	196 98.0	Effect of fabric description on assessing fabric hand
Agree	144 72.0	4 2.0	

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Disagree +neutral	28 14.0	197 98.5	Information facilitates decision-making
Agree	172 86.0	3 1.5	
Disagree +neutral	74 37.0	0 0.0	Information helps decision about overall quality*
Agree	126 63.0	0 0.0	

* In these cases McNemar's test could not be done as the recoding grouped al the responses into one cell (there were no positive responses for these variables when assessing the chosen South African website). Binominal tests were done in these cases.

Question 25 and 26 (Section B of questionnaire)

Frequency Percentage	Website containing textile guide	South African websites	Aspects relating to content
Too little + Not enough to change	41 20.5	198 99.0	Amount of information supplied
Definitely helped	159 79.0	2 1.0	