THE DETERMINANTS OF SOUTH AFRICAN CONSUMERS' ONLINE SHOPPING SATISFACTION

by

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ABSTRACT

THE DETERMINANTS OF SOUTH AFRICAN CONSUMERS' ONLINE SHOPPING SATISFACTION

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Internet penetration and access to the World Wide Web is growing at a rapid pace in South Africa. Progressively Internet users have become online consumers, buying books, music, insurance, electronics, furniture, groceries, jewellery, travel and other products and services online.

The focus of this research was to identify the factors that make up the online shopping experience and to understand how these factors correlate with online shopping satisfaction in a South African context. Understanding the relationship between the online shopping experience elements and customer satisfaction with online purchases is essential to online retailers, as well as to traditional retailers looking to enter the environment of online sales. The online shopping experience consisted of the following six elements:

- Usability
- Trust
- Interactivity
- Aesthetics
- Online customer service

- Marketing Ps

The elements that make up the online shopping experience were conceptually linked to online customer satisfaction. An Internet-mediated survey was conducted through convenience sampling methods and with the additional help of a reputable research company a large sample was acquired.

The results of an exploratory factor analysis proved that *online customer service* was too closely correlated to the other experience elements. *Online customer service* was, therefore, left out of the multiple regression analysis that followed.

The results of the multiple regression analysis identified *trust, the marketing Ps, usability* and *interactivity* as statistically significant determinants of *online shopping satisfaction*. *Trustworthiness* showed the strongest positive relationship with online shopping satisfaction. *Aesthetics* proved not to be a statistically significant determinant of *online shopping satisfaction*.

It is recommended that future research concentrates on further conceptualising the shopping experience elements. Increased knowledge and understanding of the various elements that make up an online shopping experience may prove valuable.

The online shopping environment in South Africa is young and in a rapid growth stage. The implication for managers is to focus on *trust* and the *marketing Ps* as significant determinants of online shopping satisfaction in this environment. Security issues and traditional marketing elements (specifically price and promotions) should be the focus of online retailers in South Africa.

The better online businesses understand the determinants of online customer satisfaction, the better they can present their retail websites to reach organisational goals.

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1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

Research shows the majority of online customers consider the Internet as their primary source of information when searching for products, services, news, weather and entertainment (Lorenzo, Constantinides & Gomez-Borja, 2009:2). There are more than 1.5 billion Internet users worldwide, an audience that very few businesses can afford to ignore. People use online resources to look for a wide variety of information, to compare products and services, to browse for job opportunities and to search for property. The Internet is further used to connect socially with friends and to network with business associates. Progressively, Internet users have become online consumers, buying books, music, insurance, electronics, furniture, groceries, jewellery, travel and other products and services online (Willems, 2011:3).

With the Internet becoming a major distribution channel, as well as the main source of product and service information, the task of attracting customers to company websites and online offerings becomes a strategic necessity. A recent Nielsen Online report indicates that more than 95% of Internet users have at some stage taken to shopping online (Lorenzo *et al.*, 2009:2). In the light of this, it is not surprising that marketers are increasing efforts and budgets to engage with online shoppers.

Research indicates that the Internet in South Africa holds great potential as a sales channel (Goldstuck, 2012:1-2). South African consumers use the Internet to search for product information regardless of whether the end purchase is made from an online retailer or a non-Internet-based seller (traditional 'bricks-and-mortar' retail store). The total spent on online retail goods (excluding air ticket sales) in South Africa reached R2.028 billion in 2010 at a growth rate of 30% over the previous year. The growth rate for 2011 exceeded 30% with a massive increase in the number of Internet shoppers in the country. More than R11.5 billion was spent on total business-to-consumer e-commerce in 2011, including airline ticket sales (Goldstuck, 2012:1-4).

Customer satisfaction is clearly linked to customer loyalty, repurchases by online customers, positive word-of-mouth communication, and ultimately, to the profitability of retail firms (Chang, Wang & Yang, 2009:440; Wirtz & Lee, 2003:345). Extensive research has been conducted on various factors that constitute and influence online purchase experiences, retail website choices, and ultimately customer satisfaction with purchase decisions (Constantinides & Geurts, 2005:307-336; Grigoroudis, Kyriazopoulus, Siskos, Spyridakos & Yannacopoulus, 2007:545-548; Ha & Stoel, 2012:197-215; Hopkins, Grove, Raymond & LaForge, 2009:26-28; Jeong, Fiore, Niehm & Lorenz, 2008:106-107; Kim & Forsythe, 2010:450-453; Korgaonkar & O'Leary, 2008:485-512; Lorenzo *et al.*, 2009:1-14; Nalchigar & Weber, 2012:1-42), but little attention has been given to these concepts particularly in a South African context.

The focus of this research is to identify the factors that influence the online shopping experiences of online customers and also to understand how these factors correlate with online shopping satisfaction in a South African context. Online retailing is growing at a rapid rate in South Africa, but there are vast differences in the quality of web experiences and websites between South African online retailers. According to Novak (in Lorenzo *et al.,* 2009:2), the customer experience of visiting a website is one of the most important factors for success in online retail sales. Understanding the relationship between web experience factors and customer satisfaction with online purchases in a rapidly growing emerging market such as South Africa is essential to online retailers, as well as to traditional retailers looking to enter the realm of virtual sales.

The growing importance of the Internet as an online sales channel and commercial marketing medium has put businesses under pressure to offer a pleasant overall experience to their online consumers through their websites and online offers. Adding to the pressure are the ever-increasing expectations of online consumers for a fulfilling and engaging web experience. Using the Internet to improve product knowledge and expand business capabilities is a way of gaining a competitive advantage in the market. Furthermore, customers that prefer to shop online expect retailers to have an online option available, in a smart, interactive, and ultimately, rewarding manner (Jeong *et al.*, 2008:106; Lorenzo *et al.*, 2009:106).

The words *online*, *virtual* and *web* are used interchangeably throughout the dissertation to refer to purchase decisions and shopping that take place on the Internet, as well as for retailers and customers that function in the online environment.

The words *online customer, online consumer, online shopper* and *online client* are used interchangeably throughout the document to refer to individuals who buy products and services online. The words *online retailer and online vendor* are also used interchangeably to refer to those companies who sell products and services through the Internet.

1.2 PROBLEM STATEMENT

Customer satisfaction is fundamental to the success of online businesses (Liu, He, Gao & Xie, 2008:920). The positive and direct relationship between satisfaction and organisational performance not only underscores the importance of customer satisfaction, but also the importance of the factors that have a significant influence on customer satisfaction (Liu *et al.*, 2008:920). Studies pertaining to customer satisfaction, online retail purchases, online experiences and the relationship between these constructs have mainly been conducted in Europe, the USA and Asia, which provides an opportunity for expanding these studies to emerging markets such as South Africa (Constantinides & Geurts, 2005:307-336; Hopkins *et al.*, 2009:26-28; Jeong *et al.*, 2008:106-107; Liu *et al.,* 2008:920; Lorenzo *et al.*, 2009:1-14). Lorenzo *et al.* (2009:11) accentuate the importance of adapting studies pertaining to online shopping experiences in order to compare the perceptions of users in different countries across the globe. Furthermore, they emphasise the importance of continuing research on the topic of user experience in an online shopping environment, as this market is relatively new and is growing rapidly worldwide. New knowledge about the behaviour of online consumers thus has both practical and academic value (Lorenzo *et al.,* 2009:11)

“Although a large number of web service attributes that can enhance the online buying environment were identified, relatively few e-tailers offered a majority of such attributes on their websites. Many e-tailers fail to provide key web service attributes that improve the online buying environment and thus provide a satisfying experience” (Kim, Kim, Kandampully, 2007:877). As online retailing in South Africa grows and more people gain

access to and embrace online shopping, the factors affecting the online shopping experience play an increasingly important role. Very little research on these attributes and on online shopping in general has been conducted in South Africa. It is therefore of academic importance that more research is conducted regarding online retail in a South African context.

Gaining insight into the factors that constitute an online buying experience will assist local retailers to better understand how consumers react and respond to these factors in an online retail environment. The relationship between these factors and online purchase decisions necessitates further investigation into the South African environment. According to Novak (in Lorenzo *et al.,* 2009:2), little is known about the different elements that form part of an online shopping experience. Developing a comprehensive understanding of the online shopping experience is highlighted as a critical factor for creating a competitive advantage on the Internet.

The study attempts to expand on existing studies by identifying key elements that form part of the online shopping experience found in a number of academic journal articles. These elements feature in various themes in marketing literature. Online shopping experience elements from past studies will be integrated into a comprehensive online experience model. The relationship between these elements and online customer satisfaction with the online purchase will be analysed. The study focuses on online shopping in South Africa and adds to the relative small knowledge base that is currently available.

1.3 PURPOSE STATEMENT AND RESEARCH OBJECTIVES

This section discusses the purpose statement and research objectives of the study.

1.3.1 Purpose statement

The main purpose of the study is to examine the relationship between specific web experience factors (i.e. usability, online trust, marketing mix, aesthetics, interactivity and customer service quality) and customer satisfaction with online purchases in the South African online retail environment.

1.3.2 Research objectives

The following specific research objectives will guide the study:

- to examine the relationship between the usability of an online retail website and online customers' satisfaction with their purchase decisions;
- to investigate the relationship between the perceived levels of interactivity that an online retail website offers and online customers' satisfaction with their purchase decisions;
- to investigate the relationship between the trustworthiness of an online retail website, including brand influences, and online customers' satisfaction with their purchase decisions;
- to examine the relationship between the aesthetics of an online retail website and online customers' satisfaction with their purchase decisions;
- to examine the relationship between perceived service quality of an online retail website and online customers' satisfaction with their purchase decisions;
- to examine the relationship between online customers' perceptions of the marketing mix elements of an online retail website and their satisfaction with their purchase decisions;

Based on a review of the available literature, the following hypotheses are stated:

- H_1: Customers' perceptions of the usability of an online retail website are positively correlated with their satisfaction with the purchase decision.
- H_2: Customers' perceptions of the interactivity of an online retail website are positively correlated with their satisfaction with the purchase decision.
- H_3: Customers' perceptions of the trustworthiness of an online retail website are positively correlated with their satisfaction with the purchase decision.
- H_4: Customers' perceptions of the aesthetics of an online retail website are positively correlated with their satisfaction with the purchase decision.
- H_5: Customers' perceptions of the perceived online customer service quality of an online retail website are positively correlated with their satisfaction with the purchase decision.
- H_6: Customers' perceptions of the marketing mix elements of an online retail website are positively correlated with their satisfaction with the purchase decision.

These hypotheses are discussed in more detail in Chapter 4.

1.4 ACADEMIC AND PRACTICAL CONTRIBUTION

Few phenomena have had such a profound impact on the way business is conducted than the emergence of the World Wide Web. The Internet is undoubtedly a pervasive and unparalleled communication tool in today's business environment, both as a source of information and as a buying medium. With increased competition in the e-commerce environment worldwide, questions arise frequently regarding effective website design and how smart online consumers are affected by the experience of buying online (Hopkins *et al.*, 2009:24).

As stated before, the main aim of this study is to empirically gain a better understanding of which experience factors retailers and customers should deem important to enhance customer satisfaction in the South African online retail market. Retailers that wish to enter the online space in South Africa are faced with a rapidly growing and diverse market and

the development of online customer satisfaction literature in South Africa will allow a better theoretical understanding of this significant market.

So, Wong and Sculli (2005:1241) state that further research with regards to the actual shopping behaviour of online consumers and the identification of additional variables that connect with web shopping decisions will prove interesting and productive. Koufaris (2002:218) poses the question: "How do customers decide to visit a specific web store for a planned purchase, and what factors determine whether they will actually make that purchase at that store?" He further stresses the importance of future studies to explain the factors behind customer acquisition and purchasing online. Lorenzo *et al.* (2009:12) state the importance of further research with regard to how web experience factors and online consumer purchase decisions are related and **specifically suggest that the South African environment be further analysed**. Emerging markets such as South Africa, Brazil and India have massive potential for growth as the online infrastructure develops in these countries. Liu *et al.* (2008:920) stress the importance of satisfying online customers for stimulating growth and market share and note that online customers differ greatly across countries. Determining what constitutes an online experience that is able to satisfy online customers in their respective countries will allow retail firms to present their online products and services more effectively and improve their competitive advantage.

The better companies understand their customers, the better they can present their product offerings and increase their competitive advantage. The rapid growth of online shopping in South Africa highlights the importance of designing online retail stores with customer satisfaction as the focal point. Chang *et al.* (2009:440) suggest that customer satisfaction is directly linked to customer loyalty, and even more so in an online environment where alternative outlets are readily available. Customers who are dissatisfied will not return leading to a loss of income and market share.

Businesses need to take heed of the growth in the number of online consumers in South Africa and differentiate between the virtual consumer and the traditional 'brick-and-mortar' customer (Mostert, 2002:491-492). There is a shift in shopping activity in South Africa and the rest of the world from the physical space to the online space.

South Africa finds itself very far behind developed countries with regard to Internet penetration in the population, but this also differentiates South Africa from the rest of the world by attaining massive current growth with the latest technologies (Business Monitor International, 2011:24; Internet World Stats, 2011). From an academic perspective, examining the relationship between consumers' perceptions of usability, trust building, marketing mix, aesthetics, interactivity and service quality of online retailers' offerings and their overall satisfaction will give insight into the various factors that make up the online shopping experience. Furthermore, the relationship between the online experience and the online customers' satisfaction with their purchase decisions in the South African e-commerce environment will give retailers invaluable insight into and knowledge of the country's online consumer. Better understanding of these relationships will enhance the ability of online retailers to design and develop a more successful web offering.

1.5 DELIMITATIONS

The research focuses on the relationship between online experience factors and customer satisfaction with purchase experience in a South African context and excludes any non-South Africans. The study required that participants had stable and regular Internet access personally or through their employers, had a bank account and had the ability to make an online purchase. Furthermore, all respondents had to have made at least one online purchase in the three months prior to completing the questionnaire.

The research acknowledges other factors that may be associated with online customer experience and primarily focuses on the web experience factors identified by Lorenzo *et al.* (2009:114), with customer service added as an additional element. In addition, the study is concerned with the relationship between customer satisfaction with actual purchases made and web experience factors, and will not examine other online activities such as information searches, product comparisons and after-sales actions.

Furthermore, the sample may not be representative of all online retail customers in South Africa due to the necessity of a non-probability sampling approach.

1.6 ASSUMPTIONS

Academic research should accept certain critical assumptions for the research to be meaningful (Leedy & Ormrod, 2010:5-6). All researchers make certain implicit assumptions when conducting research and it is important for researchers to articulate which implicit assumptions their studies are based on. The assumptions that have bearing on this study are clearly stated in the following section so that anyone inspecting the research may evaluate it accordingly.

Firstly, the study assumes that the online shopping experience elements consist of website usability, website interactivity, online trust, website aesthetics, the marketing mix and online customer service. Other online shopping experience elements may also exist, but will not be investigated.

Secondly, the study assumes that online customers will experience these elements when completing the steps in the online buying process, will be able to identify these elements and differentiate between them. It also assumes that online customers will be able to answer questions about these experience elements presented in an online survey.

Thirdly, the assumption is made that there is a relationship between these elements and online customer satisfaction with purchase decision, and also that this relationship is appropriately measurable through quantitative research.

The fourth assumption is that the individuals who have made an online purchase within the past three months will be able to meaningfully and truthfully complete a survey questionnaire without guidance.

1.7 DEFINITION OF KEY TERMS

The key terms involved in this study are as follows: *online customer, customer satisfaction, online shopping experience,* and *online retail purchase decision.* For the purpose of the study, the terms are briefly defined as follows:

Online customer: An *online customer* is used throughout the document and can simply be defined as a normal customer of any retail outlet using the Internet to make his or her retail purchases.

Customer satisfaction (Section 2.2.1)**:** *Satisfaction* can be conceptualised in two broad ways. When satisfaction is determined by the emotional response of how attributes of a specific service encounter performed, it is seen as transaction-specific satisfaction. When satisfaction is measured on performance of repeated transactions or encounters, it is conceptualised as cumulative outcome or overall satisfaction. In an online context, when a consumer makes a one-off purchase from an online retailer, the resulting satisfaction is seen as transactional (Chang *et al.*, 2009:426). Kotler (in Chang *et al.*, 2009:426) posits that satisfaction is a person's feelings of delight or disappointment resulting from comparing a transaction's perceived performance or outcome with his or her expectations. *Customer satisfaction* is most widely recognised as the comparison that a customer makes between the expected value (what a customer expects the value of the transaction to be, before the transaction) of a product or service and the actual value (what the customer perceives in terms of value, after the transaction has taken place) of the same product or service. This is referred to as the disconfirmation-of-expectations model (Wirtz & Lee, 2003:346). The disconfirmation-of-expectations model can also be applied to customer satisfaction with other activities by comparing what is expected and what is perceived. It is, therefore, not restricted only to products and services. *Customer satisfaction* can thus be seen as the psychological and emotional reaction of a customer when comparing the expected and perceived performance of a product, service or transaction (Chang *et al.*, 2009:427). In this study, the focus will specifically be on customers' transaction-specific satisfaction (or dissatisfaction) following a transaction with an online retailer.

Online retail purchase (Section 2.2.2)**:** An *online purchase decision* refers to the online customer's decision to accept and use a specific online retailer's website to make a retail purchase (Kim & Gupta, 2009:477). Thus, for the purpose of the study, an *online purchase* refers to an actual purchase made on a retail website by a customer.

Online shopping experience (Section 2.3)**:** The *online shopping experience* encompasses the complete range of direct and indirect activities and communications between an online retailer and an online customer that is required to make an online purchase (Rose, Hair & Clark, 2011:28). The primary means through which the online shopping experience is delivered is the corporate website. Mainly, the online shopping experience encompasses the entire purchase process facilitated through a corporate website.

Table 1 lists the abbreviations that are used in the dissertation.

Table 1: Abbreviations used in the dissertation

Abbreviation	Meaning
ANOVA	analysis of variance
CVR	covariance ratio
e-commerce	electronic commerce
e-mail	electronic mail
EFA	exploratory factor analysis
e-tail	electronic retail
KMO	Kaiser-Meyer-Olkin
VIF	variance inflation factor
web	World Wide Web

1.8 RESEARCH DESIGN AND METHODOLOGY

This section briefly summarises the research design and methodology. A more detailed discussion of the research design and methodology follows in Chapter 5 of the study.

The study used Internet-mediated questionnaires via a website to gather data on consumers' perceptions of their latest online shopping experience. The aim of the study is

to determine the relationship between these experience elements and the online customers' satisfaction with their purchase decision. No experiment was conducted.

The survey method of inquiry was used to conduct basic empirical research of a descriptive nature. The study uses primary, quantitative data in a cross-sectional time frame. Multiple regression analysis is used to examine the relationships between the constructs.

The target population for the study was individuals of South African nationality who resided in South Africa at the time of the survey, who had regular Internet access and who had made a retail purchase online in the three months prior to their completion of the questionnaire. The sampling methods were non-probability convenience and snowball sampling. The questionnaire was pretested by eight selected respondents in advance of being administered for data collection. The pretest was done in order to ensure that respondents had as few problems as possible with the questionnaire. Data was collected over an eight-week period from August to September 2013.

Previous research advised that a sample size of between 200 and 300 participants be used for this type of study (Beneke, Scheffer & Du, 2010; Lorenzo *et al.,* 2009). The sample size totalled 375 qualified respondents, which was an appropriate minimum sample for the study. The sample size also proved appropriate for factor analysis and multiple regression analysis.

Respondents who had not made online purchases three months prior to taking the questionnaire were eliminated from the sample. No incentives were used to encourage participation in the study.

The measurement approach was set to a multi-item scale (i.e. a multiple-item 7-point Likert scale) because of the impossibility of measuring an abstract construct, such as *online customer satisfaction*, while at the same time adequately capturing the determinants thereof, without using a multidimensional scale that has various items (see Chapter 5).

A combination of measurement scales adapted from previous research studies was used to measure the respondents' perceptions of the experience factors as well as their overall satisfaction with the decision to purchase from a specific online retailer. These scales were adapted to appear similar for the respondents to answer the questions more effectively. Only proven reliable and valid scale items were selected. The scale points were labelled ranging from 1 ('Strongly Disagree') to 7 ('Strongly Agree'). The online shopping experience factors were also measured from this scale.

Cronbach's alpha serves as an indicator of a scale's internal consistency reliability and is a popular reliability assessment method applied to multi-item rating scales that produce data at an interval level of measurement. Cronbach's coefficient alpha was used to assess the internal consistency reliability of this adapted rating scale.

As mentioned earlier, the study used factor analysis and multiple regression analysis to analyse the data and test the stated hypotheses. The hypotheses focused on the relationships between six dependent variables (i.e. six online shopping experience factors) and an independent variable (i.e. online shopping satisfaction).

1.9 STRUCTURE OF THE DISSERTATION

The dissertation is structured as follows:

Chapter 1 introduces the study, provides a problem and purpose statement and then lists the specific research objectives that guide the research. Thereafter, the academic and practical contributions of the study are discussed. This is followed by two sections covering the delimitations of the study and the critical assumptions made for the dissertation. Key terms are defined in the next section and the abbreviations used in the dissertation are also identified. This is followed by a section describing the research design and methodology used in the study. The chapter concludes with an overview of how the dissertation is structured.

Chapter 2 introduces online shopping in a global and South African context followed by a discussion of online customer satisfaction. The chapter then identifies and describes

online buying behaviour and how it compares with traditional shopping and concludes with a short section on online purchasing.

Chapter 3 discusses the online shopping experience and identifies the various elements of the online shopping experience. Each element of the online shopping experience is then discussed in detail and an explanation is provided of why each element is a critical part of the dissertation. A framework for the online shopping experience is finally presented.

Chapter 4 presents and describes the conceptual framework for the study. The different hypotheses that were tested in the study are also discussed.

Chapter 5 describes the research methodology used in the study. The broad research design of the dissertation is first discussed, followed by a section on sampling, including the delineation of the target population, the sampling method and the sample size. Data collection is discussed next, which includes sections on the survey method, measurement and pretesting. The chapter then demonstrates the quality of the research design, followed by a section on measurement. The chapter concludes with a review of research ethics.

Chapter 6 presents and discusses the empirical findings of the study.

Chapter 7 concludes the study and offers recommendations for future research. This chapter also outlines the limitations of the study.

CHAPTER 2: THE ONLINE ENVIRONMENT

2.1 INTRODUCTION

This chapter first defines *online shopping* and examines why the Internet has become such an important channel for many retailers. Next, a brief overview of the global outlook regarding online retailing is provided. Online shopping in South Africa is also contextualised and the importance thereof identified.

Online customer satisfaction is defined and discussed to indicate the importance thereof for online retailers. Since the focus of the study is the relationship between customer satisfaction and the online shopping experience, *online customer satisfaction* is a fundamental construct in the study.

Finally, *online buying behaviour* is defined and the main differences between traditional and online buying are identified. It is vital to gain an understanding of the different steps in the online buying process in order to form a complete picture of what the *online shopping experience* entails.

2.2 ONLINE SHOPPING

The advancement of the Internet has given rise to a new form of businesses-to-consumer shopping, namely online shopping. *Online shopping* is defined as the process customers undergo to purchase products or services on the Internet. Furthermore, web shopping is identified as an e-commerce system used by consumers in business-to-consumer transactions (Ling, Chai & Piew, 2010:64). It is evident from recent marketing literature that the Internet has had a truly profound effect on the retail sector internationally. The Internet provides the retail customer with an alternative option to purchase his or her products to the traditional bricks-and-mortar retail store and is a rapidly growing form of shopping worldwide.

A recent report from Marketline (2012:6) on the global online retail industry shows strong double digit growth in recent years. This growth is expected to further increase until 2016.

The online retail sector consists of the total revenues generated through the sale of retail products and services via online stores. These sales exclude travel and ticket bookings, online corporate purchasing and online auction transactions. Revenues from electronics sales were the highest globally in 2011 reaching $119.2 billion. This was followed by books, music and video revenues of $92.3 billion, and apparel, accessories and footwear revenues of $67.7 billion. All other online sales revenues globally accounted for $251 billion.

The global online retail sector experienced a double-digit compound annual growth rate of 15.4% between 2007 and 2011, with an expected further growth rate of 15.6% to 2016. The global online retail sector value and growth rate as well as expected growth rate are depicted in Table 2.

Table 2: Global online retail sector revenue for the period 2007–2016

Year	Revenue ($ billion)	% Growth
2007	299.4	-
2008	337.0	12.5%
2009	382.2	13.4%
2010	449.9	17.7%
2011	530.2	17.9%
2012	612.8	15.6%
2013	707.6	15.5%
2014	814.2	15.1%
2015	946.5	16.3%
2016	1096.0	15.8%

Source: Adapted from Marketline (2012:6-8).

Online retail stores provide businesses with new ways to achieve a sustainable competitive advantage in the market and to ensure the growth by reaching more consumers in a different way. Even though e-commerce might not be suitable for all retailers, having some presence online in the form of a website or online advertising should have positive consequences for the retailer in terms of trust, search-ability and awareness. Many practitioners and academics conclude that it is essential to have an online presence in todays fast-paced and technologically advanced retail environment

(Ling *et al.,* 2010:66). The Internet offers consumers a variety of benefits including convenience, time saving, competitive pricing and product availability according to Doherty and Ellis-Chadwick (2010:943).

In addition to the consumer benefits derived from online shopping, Doherty and Ellis-Chadwick (2010:944) argue that the Internet provides online retailers with a unique set of benefits. The Internet offers online retailers new ways to provide information, facilitate communications, collect data, promote products and services, and ultimately, enables the selling of merchandise online. The potential of the Internet as a communications channel is highlighted, with capabilities such as global reach, ease of access, enhanced interactivity, flexibility, speed, cost efficiency and ease of maintenance. It is important to distinguish between e-commerce and online presence or advertising. While advertising and presence refers to communications between companies and Internet users, e-commerce refers to online selling capabilities on the Internet.

The strong growth rate of online shopping revenue globally, the increase in the number of online shoppers, the diversity of online retail consumers and the sheer competitiveness of the environment makes understanding key factors that motivate consumers to shop online increasingly important (Ha & Stoel, 2012:198).

2.2.1 Online shopping in South Africa

Online shopping in South Africa has entered a phase of sustained acceleration with the total amount spent on online retail goods and services surpassing the R2-billion mark for the first time in 2010. Online retailing in South Africa is growing four times faster than its physical counterpart at 30% per year. According to Arthur Goldstuck, managing director of World Wide Worx, by the year 2015, more than 6.8 million South Africans will have had Internet access for more than five years (Goldstuck, 2012). The potential e-commerce market in South Africa is growing fast with more and more individuals gaining access to the Internet through undersea cables, mobile networks and a host of Internet distribution companies. A recent study by World Wide Worx states that online shopping contributes 2% of the total gross domestic product (GDP) of South Africa and should reach 2.5% by

2016 (Goldstuck, 2012). Table 3 shows the rand value of online retail revenue in South Africa per year for the period 2006 to 2011.

Table 3: Online retail revenue in South Africa for the period 2006-2011

Year	Online retail revenue (R billion)	% Growth
2006	688	30%
2007	928	35%
2008	1200	35%
2009	1560	30%
2010	2028	30%
2011	2636	30%

Goldstuck (2012) views online retailing as part of the Internet economy in South Africa. The *Internet economy* is defined as investment in Internet infrastructure, expenditure in Internet activity and the access and use of the Internet in a country. The Internet economy consists of the following elements:

- money spent on online retail;
- money spent on online advertising;
- Internet infrastructure;
- business and Government engagement with the Internet.

According to Goldstuck (2012), the size of the Internet economy in South Africa has not yet been officially measured and is estimated based on a range of different expenditure measures. “This is an indication partly of the lack of awareness of the significance of the sector, as well as the lack of maturity of Internet use in business and Government” (Goldstuck, 2012:3). Online retail and Internet penetration in South Africa is growing fast with more and more stores entering the online space or improving on their current online offerings.

The chief executive officer of Woolworths, Ian Moir (Business Monitor International, 2011), states that faster and cheaper broadband would be the tipping point for South Africa and that the acceleration of e-commerce after this point will be remarkable. Issues with the delivery infrastructure and security concerns will eventually be overcome and this will give

rise to a very significant sector of sales and revenue for South African retailers (Business Monitor International, 2011). Growing awareness of the significance of the Internet by business and government and rapid growth in Internet penetration, especially through smartphones, will have a direct and meaningful impact on the South African economy (Goldstuck, 2012).

2.3 ONLINE CUSTOMER SATISFACTION

Peterson and Wilson (1992:61) argue that the primary obligation of retail firms is customer satisfaction. For a business to be successful in the long term, customer satisfaction should be a primary goal, and firms should purposefully allocate their resources to attain this goal. In addition to stressing the importance of customer satisfaction, they posit that all company activities, policies and goals should be evaluated from a customer satisfaction perspective. Customer satisfaction is linked to customer loyalty, intention to repurchase, retention, and ultimately, to the profitability of retail firms. Because other online retailers are a simple mouse click away, it is critical that companies understand how to build loyalty in online retail settings through customer satisfaction (Chang *et al.*, 2009:424).

One can therefore argue that online shopping satisfaction is a critically important shopping consequence underlying the sustained growth and success of online retailers. Online customer satisfaction leads to further positive outcomes for online retailers such as customer trust, repurchase intent, referrals, customer loyalty and online conversion (from browse to purchase).

Bagozzi (in Ha & Stoel, 2012:201) argues that online customer satisfaction is derived from a cognitive evaluation or appraisal of an e-shopping experience. This appraisal process evaluates a past shopping experience and results in one of two consequences, namely outcome-desired conflict or outcome-desired fulfilment. “The outcome-desired conflict occurring when a person fails to meet a goal or experiences an unpleasant event develops negative emotional reactions (e.g. dissatisfaction, anger, disappointment) which lead him/her to avoid or correct the unpleasant occurrence. The outcome-desired fulfilment which occurs when a person achieves a goal, experiences a pleasant event, or avoids an unpleasant event derives positive emotional responses (e.g. satisfaction, pleasure, relief),

and thus, leads him/her to maintain the pleasant outcome" (Bagozzi in Ha & Stoel, 2012). In other words, dissatisfaction stems from a bad shopping experience when a desired shopping outcome cannot be reached. Satisfaction stems from a positive shopping experience when a desired outcome has been met.

Knowledge of the relationship between website attributes and customer satisfaction is still developing. The attributes of online stores differ greatly compared with those of 'brick-and-mortar' retail stores, as does the overall shopping experience in these two environments. In addition, measures of customer satisfaction should be implemented differently in the context of online and physical retail stores (Dholakia & Zhao, 2010:485). Customer satisfaction in the online environment is essentially harder to measure due to the lack of personal engagement and is a result of the experience offered to the customer by the website. In most cases, the corporate website is the sole provider of information and communication to the customer. Park and Kim (in Dholakia & Zhao, 2010:485-486) refer to this concept as information satisfaction. *Information satisfaction* refers to the emotional reactions by the online customer to the experience provided by the website.

The success of online shops depends largely on customer satisfaction and customer loyalty (Nalchigar & Weber, 2012:26-29). The more satisfied customers are with the shopping experience, the more they make use of a specific retailer for repurchases. This drives customer loyalty and decreases the amount of effort a customer has to go through to make a purchase from the same preferred online retailer. When a customer is satisfied with an online retailer, it increases the trust between the online retailer and the customer. This, in turn, has a positive impact on repurchase decisions and customer loyalty, resulting in increased revenue for the retailer.

Liu *et al.* (2008:920-923) conclude that customer satisfaction in the online environment is a consequence of the customers' experiences during the various steps of the online buying process. This leads to the question: What is the relationship between the online buying experience and customer satisfaction? Dissatisfied customers in the online environment are not likely to return because of fierce competition in the online retail environment and the variety of online stores available to the customer. In addition, the lack of personal contact between the retailer and customers causes loyalty in online stores to initially be

diminutive, meaning loyalty needs more time to manifest itself. This further emphasises the importance of online customer satisfaction. A fundamental understanding of the elements which affect customer satisfaction is thus vital to online retailers.

The study specifically examines customer satisfaction with online purchases, the final critical step in the buying process, and explores the relationship between customer satisfaction and different online shopping experience factors.

2.4 ONLINE BUYING BEHAVIOUR

Customer buying behaviour is fundamentally a learning, information-processing and decision-making process consisting of several steps. The basic consecutive steps in customer buying behaviour is identified as problem identification, information search, alternatives evaluation, purchasing decision and post-purchase evaluation. A distinction is furthermore made between high- and low-involvement purchasing, which implies that the actual buying process may be more or less consistent with the steps mentioned above. Factors that may influence the level of involvement include buyer experience, product types and perceived purchasing risks (Constantinides, 2004:111). The online customer plays a dual role in the virtual retail environment in that he or she is both a user of information technology, as well as a customer. This implies that the customer makes a series of complex human-computer interactions on retail websites to acquire a specific product or service (Kuo, Hwang & Wang, 2004:713).

Kuo *et al.* (2004:714) use the 10-step business-to-consumer customer behaviour model depicted in Figure 1 as a basis for describing customer buying behaviour on websites. This model depicts additional steps in customer buying behaviour in an online retail environment compared with traditional shopping.

Figure 1: The 10-step business-to-consumer customer behaviour model in an online retail environment

Source: Adapted from Kuo *et al.* (2004:714).

The website or website interface is thus identified as the main difference between traditional and online shopping. Website interfaces that are poorly designed and make excessive use of multimedia could result in confusion, a lack of cohesion and an unsatisfying online experience. On the other hand, the online buying experience is improved by sites that guide the online shopper through useful and concise information and offer customer-supporting interfaces. Compared with conventional retailing, online retailing enriches the information environment by providing detailed information on products, substitute products and alternative supplier options (Kuo *et al.*, 2004:713-714).

Weis (2010:432) states: “The Internet is unique, and concepts cannot be readily borrowed from other business situations and applied to the Internet without risking adverse consequences on its effectiveness and utility.” Web shopping behaviour does not necessarily reflect traditional ways of shopping and therefore existing knowledge of

consumer behaviour in the traditional retail environment cannot be directly applied to virtual shopping (So *et al.*, 2005:1225). All online retailers are on one platform, namely the Internet. This means that a large variety of products from different retailers can easily be viewed and compared, while reviews of these products are readily available from both suppliers and other customers. What would have taken a customer a very long time to do in a traditional environment can now be done in a matter of minutes, without much effort.

2.4.1 Online purchasing

A purchase decision refers to the decision to accept and use a specific online retailer to make a purchase. Kim and Gupta (2009:477) explain online purchase decisions using mental accounting theory: “Mental accounting theory explains that there are two stages in conducting a transaction with a vendor: the judgement stage for evaluating potential transactions, and the decision stage for approving or disapproving each potential transaction.” Where purchase intent refers to the likelihood that a user will make a purchase from a site, an online purchase decision refers to the actual decision to purchase from that site. Research has demonstrated the importance of attracting the attention of virtual customers to the corporate website for various steps in the buying process, but ultimately, it is the decision to purchase, the purchase itself and the satisfaction with that purchase that determine the success of an online retailer (Lorenzo *et al.,* 2009:2).

2.5 CONCLUSION

This chapter discussed the online shopping environment as well as online shopping in South Africa. Online shopping satisfaction was reviewed and identified as a critical construct, which also serves as the dependent variable in this study. Chapter 2 concluded with a review of online buying behaviour and a definition of online purchasing. The following chapter discusses online shopping, online customer satisfaction and online buying behaviour.

CHAPTER 3: ONLINE SHOPPING EXPERIENCE ELEMENTS

3.1 INTRODUCTION

This chapter defines and discusses the various elements of the online shopping experience. The online shopping experience is made up of various elements that consumers experience when making an online purchase. These elements make up the constructs which may have a relationship with online customer satisfaction. A clear understanding of what these elements are, how they are defined and where they fit into the overall online shopping experience is crucial.

This Chapter discusses the online shopping experience and how this differs from a traditional shopping experience. Thereafter, each of the following online shopping experience elements is discussed:

- usability;
- interactivity;
- online trust;
- aesthetics;
- marketing mix factors;
- online customer service.

3.2 ONLINE SHOPPING EXPERIENCE

Customer experience is defined as the internal and subjective response customers have to any direct or indirect contact with a company (Rose *et al.*, 2011:27). A *consumer's experience* is also defined as the dynamic evolution of the relationship between a company and the customer (Kim, Cha, Knutson & Beck, 2011:113). This experience originates from every communication and interaction, direct or indirect, that a consumer has with a company that causes the consumer to respond in some way or another. In brief, the customer experience does not only consist of the purchase of a product by the customer, but includes all direct and indirect interactions that a customer has with the company offering the product.

Direct interaction includes the actual purchase of a product or service and is typically initiated by the customer. The online experience is mainly made up of direct interactions, which include all the steps in the online buying process that a customer purposefully initiates and completes in order to make an online purchase.

Indirect interactions include instances such as marketing activities by a company as well as any other unplanned interaction that takes place between a customer and an organisation that incites a response by the customer. An example of an indirect interaction is a billboard advertisement of the retailer that a consumer sees while driving. The billboard might be humoristic, and the consumer reacts to it in a positive way. All of these interactions constitute an overall online customer experience.

The online customer experience, in this regard, is no different from a traditional customer experience, in that it is generated by all interactions that a customer has with an organisation, albeit through a different medium. Table 4 compares face-to-face buying and virtual shopping with regard to six experience factors.

Table 4: Comparison of the traditional face-to-face and online shopping experiences

Experiential factor	Offline context	Online context
Personal contact	High to medium	Low
Information provision	Varies in intensity over different media	Intensive
Time period for interactions	Dictated by the organisation	Dictated by the customer, anytime, anywhere
Trustworthiness	High level of trust, pay, receive and evaluate immediately	Low to medium, brand dependent, product to be delivered later
Convenience	Possible inconvenience, geographical distance and transport	High level of convenience
Brand presentation	Range of tangible devices used to present the brand	Non-tangible, audio-visual cues

Source: Adapted from Rose *et al.* (2010:28).

Customers interact with the Internet across a range of buying activities such as product information searches, browsing, evaluating, selecting, purchasing and providing any feedback on the purchase. Customers are further exposed to communications by

organisations on the Internet such as their online advertising and online presence on news, corporate and social websites. This range of activities ultimately leads to the online customer experience (Rose *et al.,* 2010:28). Even though the description of these activities is similar to those of a traditional retail purchase, the actual experience is different because the Internet is the medium where all of these interactions take place. The *online customer experience* is considered as a construct that can influence the decision-making process of the virtual customer.

The primary means through which the online shopping experience is delivered is the corporate website. Successful retail websites are designed to assist the customer through the buying process in addition to meeting the customer's needs and expectations (Constantinides, 2004:113). According to Elliot and Speck (2005:42), online buyers are becoming more discriminating and their expectations of retail websites are increasing. These authors posit that online retailers must tend to all aspects of buying execution from product search to effective delivery and service. Gomez (in Elliot and Speck, 2005:43) poses the question: "Given the attributes of my users and the market in which I operate, what site attributes are the most important to the people who actually use my site?"

According to Kim *et al.* (2011:113), *customer experience* is an abstract and unclear construct which has not yet been explored in depth in the academic literature. The online experience consists of a combination of online functionality, information, virtual cues, stimuli, products and services. Because the online purchase experience embraces all of these features and the fact that it is a relatively new form of shopping, one can argue that it is an even more complex construct than the traditional physical shopping experience (Constantinides, 2004:113).

According to Doherty and Ellis-Chadwick (2010:965), online customers are becoming more empowered and retailers are taking note of this. Online customers are the driving force behind online innovation and ideas and their online shopping experience will determine where they choose to buy in future. Moreover it is suggested that, "… all retailers will need to develop strategies for responding to enhanced consumer power, … and working hard to ensure that their websites provide consumers with an enjoyable and reliable shopping experience" (Doherty & Ellis-Chadwick, 2010:965). Jeff Bezos, the chief

executive officer of Amazon.com (Kotha, Rajgopal & Venkatachalam, 2004:110), notes that the popularity of his company's website is largely due to a superior shopping experience. He explains that their four core value propositions, namely convenience, service, selection and price, offer the online customer a worthy experience. It is the overall experience they offer the online customer that results in Amazon.com's feat of being one of the largest online retailers in the world. Creating a unique online customer experience that cannot be easily imitated by competing organisations can result in a sustainable competitive advantage and long-term success (Kotha, Rajgopal & Venkatachalam, 2004:110).

Website characteristics and how they influence customers' perceptions of the quality of the website have been the subject of several studies in recent years. Loiacono, Watson and Goodhue (2002:19) established a scale called WebQual, which measures perceived website service quality across 14 dimensions as shown in Table 5.

Table 5: WebQual dimensions and high-level concepts

High-level concept	Dimension
Ease of use	Ease of understanding Intuitive operation
Usefulness	Information quality Functional fit-to-task Interactivity Trust Response time
Entertainment	Visual appeal Innovativeness Flow
Complementary relationship	Online completeness Better than alternative channels Consistent image
Customer service	Customer service

Source: Adapted from Loiacono *et al.* (2002:6).

The WebQual scale has been the subject of many academic papers and is recognised in various academic papers as a way to better understand the nature of successful corporate websites. Lee and Lin (in Chang & Wang, 2011:7) recognise five main factors that influence customers' perceptions of service quality in online shopping, namely website

design, reliability, responsiveness, trust and personalisation. Some shortcomings of the WebQual scale are identified in the body of research, and the continuous investigation of other important issues is stressed. These issues are as follows:

- components of perceived retail website quality;
- reliability and trustworthiness of retail websites.

Similar to these factors, Elliot and Speck (2005:42) identify six website factors that may or may not affect a customer's attitude towards a retail website. These are ease of use, product information, entertainment, trust, customer support and currency.

It is evident from the literature that website characteristics, online customer service factors and antecedents of the online experience are very much interrelated. Service factors as well as website characteristics make up the online buying experience that can be influenced by the retailer. There is a need to view these factors as an overall experience and to examine their relationship to retail website preference.

In a critical review of 48 academic papers, Constantinides (2004:114) identified five elements that make up the so-called 'web experience'. These five elements fall under three broader categories, which are depicted in Table 6.

Table 6: The five elements of the 'web experience'

Functionality factors		**Psychological factors**	**Content factors**	
Usability	**Interactivity**	**Trust**	**Aesthetics**	**Marketing mix**
Convenience	Customer service	Transaction security	Design	Product
Site navigation	Interaction with personnel	Customer data misuse	Presentation quality	Price
Information architecture	Customisation	Customer data safety	Style	Fulfilment
Ordering process	Network effects	Uncertainty-reducing elements	Atmosphere	Communication
Search facilities	Review/feedback processes	Guarantees	Multimedia quality	Promotions
Website speed		Brand awareness		
Accessibility				

Source: Adapted from Constantinides (2004:114).

Functionality factors are those factors that enhance the online buying experience by providing a logical easy-to-use website (i.e. usability) with capabilities for communication

between customers and the company (i.e. interactivity). *Psychological factors* are those elements that give credibility and integrity to a website (i.e. trust), enabling the customer to proceed with the transaction without fear of fraud or security risks. *Content factors* depict the style and design of the website (i.e. aesthetics) as well as the traditional marketing elements such as price and products (i.e. the marketing mix) (Constantinides, 2004:114).

Novak *et al.* (in Lorenzo *et al.,* 2009:3) conclude that it is possible to define the ingredients of a "compelling online experience", to measure them and furthermore to relate them to important marketing variables. It is evident from the literature that elements of customer service and characteristics of retail websites often overlap and that these elements are co-dependent and do not exist in isolation. In addition, it is also clear that all of these elements constitute the interactions that make up the online buying experience.

It is also clear from the literature that customer service should be seen as a separate and vital element in the online buying experience. The antecedents of customer service will therefore be grouped under a sixth main experience factor, namely online customer service.

For classification purposes, the 'web experience' factors terminology found in Constantinides (2004:114) and Lorenzo (2009:3) is used, namely *usability, trust, interactivity, aesthetics* and the *marketing mix*, with the addition of *online customer service* as the sixth factor. A variety of studies and articles were reviewed to explain these elements. The terms '*web experience factors*' and '*online shopping experience elements*' are used interchangeably throughout the rest of the document to refer to these six elements. Each of these six elements that make up the online shopping experience is discussed in the following section.

3.2.1 Usability

Flavian, Guinaliu and Gurrea (2006:2) define *website usability* as an attribute of a website that reflects how easy it is to use the user interface. Better usability of a website favours better comprehension of the website content and directly relates to the online customer's

ability and confidence to complete an online purchase. Website usability considers the following factors:

- the ease of understanding the website structure, functions, interface and contents;
- the ease of using the website;
- the speed with which items can be found by the user;
- the ease of navigating the site;
- the time it requires to navigate the site and complete activities to achieve desired results;
- the ability of the user to control the steps in the buying process at any given moment.

The more usable a website is, the more favourable the customer's attitude towards the website. This, in turn, increases revisit rates, time spent on the site as well as purchases made (Lowry, Spaulding, Wells, Moody, Moffit & Madariaga, 2006:2).

According to Lorenzo *et al.* (2009:9), usability and trust are the strongest predictors of customers' decisions to purchase on a specific website. Hopkins *et al.* (2009:26) refer to the navigability of a website to indicate its ease of use, or usability. *Navigability* is identified as a driving factor of e-service quality, repurchase intent and website organisation. Hopkins *et al.* (2009:27) further state that usability influences a website's "functional convenience" by ensuring that online customers are able to effectively complete purchases. In other words, usability is a determinant factor in what makes an online purchase possible, and further determines how effectively and easily a customer can make those online purchases.

Effective site organisation is positively related to purchase intention as well as customer satisfaction and is what aids the online customer throughout the online buying process. A website that is well organised, easy to navigate and easy to use makes it easier for visitors to find exactly what they are looking for, and ultimately, creates a rewarding online experience (Hopkins *et al.,* 2009:27).

3.2.2 Interactivity

Website interactivity is broadly defined as any action by a user or a website while the user is visiting the website. Interactivity on websites relates to opportunities that a website offers the user to take any form of action online, and also includes any actions that the website may take while the user is visiting the website (Lowry *et al.*, 2006:2). Lui and Shrun (in Lowry *et al.,* 2006:2) maintain that three factors form the basis of website interactivity. Firstly, *two-way communication* is necessary for interactivity to take place and refers to the "… bi-directional flow of communication between communicators". Secondly, *active control* gives the user the ability to choose whatever information he or she wishes to communicate and allows the user to guide the interaction. Lastly, *synchronicity* indicates the timing of the interactions, i.e. the more simultaneous the information exchanges between the communicators, the more synchronous the interactions. Where *usability* refers to ease of use and understanding of how a website is structured, *interactivity* deals with the actual interactions between the visitor and the website and their attributes. Wu (1999:6) sums up *interactivity* as: "… a two-component [user and website] construct consisting of navigation and responsiveness".

Lowry *et al.* (2006:6) found that web users who experienced higher levels of interactivity also experienced a higher level of satisfaction. In addition, they found that increasing interactivity is a promising method of increasing consumer trust in e-commerce websites. The three sub-constructs of website interactivity (two-way communication, active control and synchronicity) need to be carefully considered at the design stage by website designers. Following the approach of fixing and upgrading website interactivity as time goes by could prove detrimental to the initial trust users develop with a site, whereas a website that exceeds the interactivity expectations of customers builds trust and improves satisfaction. Lowry *et al.* (2006:7) conclude that high quality interactive features are more important than interactive features simply being available, and perhaps of a sub-standard quality.

3.2.3 Online trust

Trust is defined as "… the firm belief in the competence of an entity to act dependably, securely, and reliably within a specified context" (Artz & Gil, 2007:2). In the context of a website, trust entails the communication of the online retailer's credibility and integrity that persuades the virtual customer to interact online. Yoon (2002:51) provides clarity on how *online trust* differs from *offline trust* and identifies three main differences:

- the physical distance between customer and retailer;
- the absence of salespeople and physical contact;
- the separation between buyer and product.

These differences, in turn, create problems associated with insecurity and concerns regarding privacy on the part of the customer, which need to be solved by the online retailer.

Flavian *et al.* (2006:3) maintain that trust has a notable influence on the attainment of long-lasting and profitable customer-retailer relationships. It is up to online vendors to ensure that customers feel they can fully trust them with personal information, credit-card details, home and work addresses and payments made before delivery. Just as trust influences customer loyalty and satisfaction in the long-term, a lack of online trust could quickly prove detrimental to any online retailer. Trust is based on a set of beliefs that an opposing party will act honestly, benevolently and competently.

These beliefs are described as follows:

- *Honesty* refers to the belief that one entity will be sincere and fulfil promises to another entity in a trustworthy manner.
- *Benevolence* is the belief that one entity is interested in the well-being of another without any intention of opportunistic or unscrupulous behaviour. In other words, that one party is motivated by the search for a mutually beneficial relationship or transaction.
- *Competence* reflects the degree with which the online customer believes that the supplier possesses the necessary knowledge and skill set to complete a transaction.

Ling *et al.* (2010:66) conclude that online trust plays a key role in the online buying process, and without any form of trust, online purchasing would not take place. Online trust is thus a prerequisite for online purchases. In addition to trust being a necessity for online purchasing to take place, high levels of online trust have a positive impact on a customer's purchase intent. Three dimensions of online trust, namely security, privacy and reliability, are identified.

Security involves customers' trust that the Internet is a secure mode of communication, and that all information can be transmitted safely and securely. Customers may feel there is a risk in transmitting private information on the Internet and, in addition, cannot physically check products before they are delivered, even though payment has been made. The more secure the website and buying environment are made by the retailer, the less this risk is perceived by the customer, which, in turn, has a positive impact on the customer's purchase decision and attitude towards the website and retailer in general (Ling *et al*., 2010:66).

Chen and Barnes (in Ling *et al.,* 2010:67) define *privacy* as "… the consumers' trust about the performance of the other party in the environment during the market transaction …" Privacy deals with how the online retailer uses the information given by the customer and the level of integrity an online vendor displays with the customer's information. Reliability deals a lot with the image of the company or retailer and whether the retailer has a reputation of being trustworthy. In the online shopping environment, large companies are perceived as being reliable due to their strong brand images while smaller online vendors have to work harder to develop a reputation for being trustworthy (Ling *et al.,* 2010:67).

3.2.4 Aesthetics

Schmidt, Lui and Sridharan (2009:6) broadly define *website aesthetics* as "… what a research participant feels and reports pleasing or appealing in appearance". *Aesthetics* can consequently be defined as consumers' perceptions about the overall visual attractiveness and appeal of the website design.

Aesthetics in the online environment includes animation, music, video and other multimedia effects that are incorporated into the retail website. These effects have an impact on the online customer's cognitive and affective responses and play an important role in attracting, sustaining and retaining customers at the site (Kim *et al.;* 2007:807). *Aesthetics* can then be more narrowly defined as consumers' perceptions regarding the multimedia elements (including animation, music, video and other multimedia effects) on the website. For the purpose of the study, the definition of Kim *et al.* (2007:870) is used. This definition stipulates that website aesthetics are those website attributes that are associated with multimedia effects which increase the aesthetic elements of a website and improve its graphic appeal.

Lorenzo *et al.* (2009:9) conclude that the inclusion of web elements such as pleasant colours and sounds, attractive designs and an overall entertaining 'look and feel' improves the probability of an online customer using a specific online vendor. Effective websites integrate information and entertainment, and the aesthetic orientation has been shown to impact users' senses positively and improve the online shopping experience (Hopkins *et al.,* 2009:26). The benefits of pleasing aesthetics that entertain and inform users are sa follows (Hopkins *et al.,* 2009:26):

- Pleasing aesthetics improves customers' perceptions of the service quality of the website.
- Entertainment leads to enjoyment, which positively influences customers' attitudes towards a website.
- The entertainment element has a positive impact on virtual retail sales as well as on customers' repurchase intentions.
- A website with pleasing aesthetics positively influences customer satisfaction.

The ambient conditions of any setting include those environmental aspects that affect a person's five senses, such as lighting, noise, temperature and music. In the traditional as well as the online service setting, these ambient conditions that are under the control of the retailer have been shown to elicit perceptions of entertainment and excitement. Even though some of these conditions, such as temperature and air quality, are omitted from the online setting, online retailers have the use of all the other aesthetic elements to provoke feelings of fun and excitement in their customers. The use of aesthetics to create positive

feelings in online customers will have a positive impact on their experience and satisfaction (Hopkins *et al.,* 2009:28).

3.2.5 Marketing mix factors

Marketing mix factors refer to the traditional 4Ps, namely price, promotions, product and place (distribution), and are traditionally considered as the main controllable influencers of customer behaviour. The marketing mix forms part of the tactical decisions made by retailers that define how strategic decisions are implemented and have been subject to a vast amount of research as well as incorporated into the majority of academic marketing text books (Varadarajan, 2010:121). In this case, *the marketing mix* refers to the following factors:

- the competitiveness of product/service pricing;
- the distribution or fulfilment process, and the reliability thereof;
- the availability and attractiveness of promotions;
- the assortment and variety of products and services on offer.

Lorenzo *et al.* (2009:4) posit that the marketing mix elements could very well prove not to be the main influencers of the online customer. The differences between the retail environment and the Internet as a shopping medium raise the question: Do people shop online from a specific e-retailer primarily because of the traditional marketing mix? On the one hand, the significance of traditional marketing mix factors needs to be reconsidered. On the other hand, the significance of new elements has to be examined.

3.2.6 Online customer service

Online customer service is defined as those additional services provided to customers above and beyond the basic benefits of a certain product or service (Levenburg & Klein, 2006:137). Cai and Jun (2003:511) identify four key service quality dimensions, namely website design, trustworthiness, prompt reliable service and communication. Similarly, Chan and Wang (2011:340) identify four elements of e-service quality, which are website design, reliability, security and customer service. An important distinction has to be made between the website as a service offering and the customer service provided by the

website itself. For example, a traditional retailer might offer products and services through its website, in this case, the online retail environment is a service provided by the retailer. When *online customer service* is analysed in this study it refers to the online customer service provided solely by the retail website in terms of requested communication, reliable service and feedback processes as discussed below.

Zeithaml (in Chan & Wang, 2011:339) defines *e-service quality* as: "… the extent to which a retail website facilitates efficient and effective shopping, purchasing, and delivery of products and services". As discussed earlier, online customer service elements, website characteristics and the online customer experience are interrelated and co-exist in the online retail environment. For the purpose of the study, popular customer service elements identified in the WebQual service quality model are viewed independently as elements of the online buying experience. These elements include trustworthiness, usability and website content, which were discussed earlier. For the purpose of the study, online customer service is viewed as another separate and integral part of the online buying experience and is explained in the following section.

In order to view online customer service quality as a dimension of the online customer experience, this study identifies the following as elements of online customer service (Cai & Jun, 2003:505-511):

- **Communication:** The communication dimension includes language options, the quality of one-way communication from the website, website reviews by other online customers, communication channels available to the online consumer and interactions with company personnel. Customer service elements that form part of the communication between the user and the site could overlap with interactivity elements. The difference is that online customer service may be viewed as the availability and quality of communication. This also differs from promotions in the sense that the quality and clarity of communication is an indicator of customer service, whereas the quality and perception of the promotion itself pertains to the marketing mix element.
- **Prompt and reliable customer service:** Prompt and reliable customer service refers to the online retailers' ability to provide services dependably and on time. It pertains

to providing prompt and professional feedback when requested, ensuring that billing is correct and ensuring that deliveries happen accurately and on time.

3.3 CONCLUSION

This chapter provided a definition and discussion of each of the six web experience factors. These factors, also referred to as the online shopping experience elements, serve as the independent variables of the study. The following chapter will provide the conceptual framework for the study, as well as a discussion of the hypotheses the study aims to test.

CHAPTER 4: CONCEPTUAL FRAMEWORK AND HYPOTHESES TESTED IN THE STUDY

4.1 INTRODUCTION

This chapter describes the conceptual framework tested in the current study. In essence, it is argued that an online retail purchase generates an online shopping experience for online customers. As discussed in the previous chapter, the online shopping experience consists of a variety of related elements, namely:

- usability;
- interactivity;
- online trust;
- aesthetics;
- the marketing mix;
- online customer service.

The concept of how each of these elements relate to online customer satisfaction is discussed below, followed by a discussion of the hypotheses the study aims to test.

4.2 A CONCEPTUAL FRAMEWORK FOR THE ONLINE SHOPPING EXPERIENCE ELEMENTS AND THEIR RELATIONSHIP WITH CUSTOMER SATISFACTION

Shopping satisfaction is a key factor in the success of online retailers wanting to make profit and gain market share. Customer satisfaction in the online environment is a result of customers' experiences during the various steps of the online buying process (see Figure 1), culminating in a decision to purchase a product or service from a specific online retailer (Liu *et al.,* 2008:920-923). According to Hoffman and Novak (in Lorenzo *et al.,* 2009:3), the elements of the online shopping experience can be defined and measured and can also be related to important marketing variables such as customer satisfaction and the intent to repurchase.

According to Zeithaml *et al.* (2002:363), there are certain criteria online customers use to evaluate websites in general and the quality of the service they receive from online retailers in particular. These criteria include information availability and content, ease of use or usability, privacy/security, graphic style and fulfilment. It is evident that the online service quality factors identified by Zeithaml *et al.* (2002:363) overlap with the web experience elements proposed by Lorenzo *et al.* (2009:2) and include a number of additional service elements.

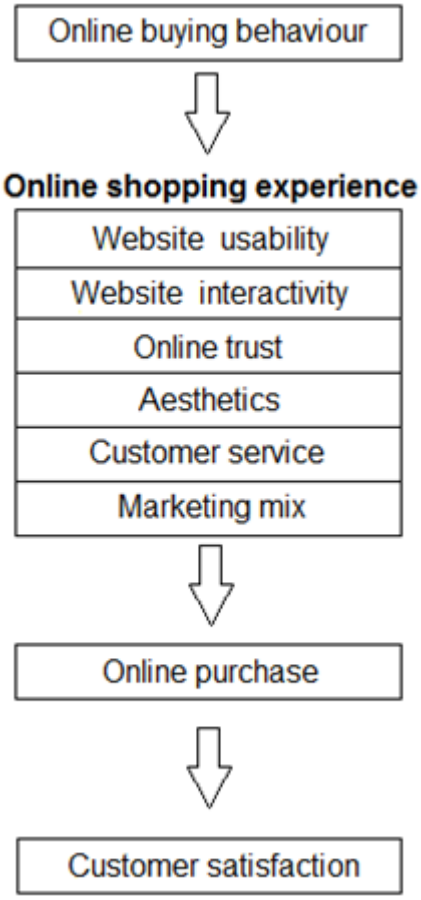
Rose *et al.* (2011:29) posit that online consumers continuously evaluate their online experiences based on their perceptions of a range of website features such as product information, service provided, risk involved and navigation. These website features include elements of the web experience identified by Lorenzo *et al.* (2009:2), but also include a definitive reference to the service that a retail website provides. “Online customer service entails many different dimensions and attributes such as responsiveness of answering customer enquiries, website security, customisation, interactivity, service delivery process etc.” (Ba & Johansson, 2008:3).

The conceptual overlap between website attributes, online service criteria and online shopping experience elements creates a challenge for researchers and raises the question: What combination of factors should be included in a study of the online shopping experience and how should these factors be organised?

The overall experience of purchasing a product or service online is divided into six elements and takes place almost entirely on the Internet, and more specifically, on the retailer’s website. The web experience elements identified by Lorenzo *et al.* (2009:5) are customers’ perceptions of website usability, website interactivity, trust, aesthetics and the online retailer’s marketing mix elements. It is, however, evident that elements of the online shopping experience, elements of online customer service and characteristics of retail websites overlap in the literature on online marketing. In this study, a further element of the web shopping experience, namely online customer service, is added to the framework proposed by Lorenzo *et al.* (2009) to create an expanded view of the online shopping experience.

Figure 2 shows the conceptual framework tested in the study. In the framework, the online shopping experience is composed of six elements, which are all related to customer satisfaction.

Figure 2: Conceptual framework for the online shopping experience



The relationship that these six elements have with shopping satisfaction is discussed in the following section.

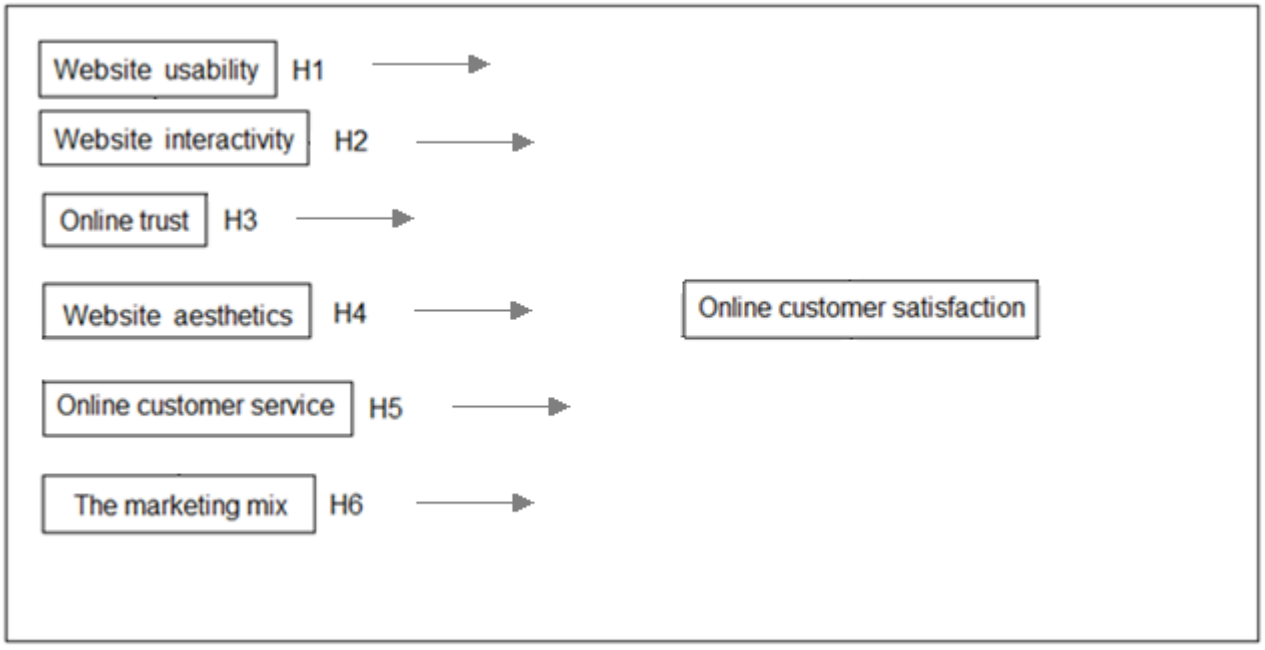
4.3 THE RELATIONSHIP BETWEEN THE ONLINE SHOPPING EXPERIENCE ELEMENTS AND ONLINE CUSTOMER SATISFACTION

The literature reviewed in Chapters 2 and 3 indicate that online buying behaviour culminates in a customer's decision to make a purchase from a specific online vendor. The literature on website attributes, online customer service and online shopping experience

provides an indication of which elements constitute an overall online shopping experience (Constantinides & Geurts, 2005; Hopkins *et al.*, 2009; Jeong *et al.,* 2008; Kim & Forsythe, 2010; Korgaonkar & O'Leary, 2008:485-512; Lorenzo *et al.*, 2009). These elements were defined and discussed in Chapter 3, are closely interrelated and are experienced by the online customer through the online retailer's website.

An online shopping experience will result in either a satisfied or dissatisfied customer. Each of the six elements of the overall online shopping experience discussed earlier may or may not have a statistically significant correlation with online customer satisfaction in a South African context, but previous research indicates that statistically significant relationships do exist between all six these elements and customer satisfaction and that these relationships have practical and academic value. Figure 3 summarises the six hypotheses tested in the study followed by an overview of each hypothesis.

Figure 3: The six hypotheses tested in the current study



The aim of the study is to investigate the relationship between each of the six elements of the online shopping experience and online customer satisfaction. The relationships tested in the study are correlational relationships; *not* causal relationships. A detailed explanation of each hypothesis follows.

4.3.1 The relationship between usability and online customer satisfaction

The *usability* of a website can be defined as the degree to which the website is organised and how the site is presented to the consumer (Hopkins *et al.,* 2009:26-27). Also referred to as "ease of use" or navigability, usability of a retail website should guide the consumer in an effective manner through the site, allowing the consumer to easily explore all the relevant information on offer. A retail site that ranks high in usability and site organisation makes it easier for visitors to find exactly what they are looking for. This, in turn, makes for an enhanced overall online experience (Hopkins *et al.,* 2009:26-27). Also see Section 3.2.1 for a detailed discussion.

Uncluttered screens, clear organisation, logical flow and easy navigation are some of the usability elements that provide practitioners with direction in the development of effective and efficient websites, which lead to consumers finding themselves in a positive emotional state (Rose *et al.,* 2011:29).

More usable retail websites have been linked to customer satisfaction, positive online experiences, positive attitudes towards stores and increased revisit rates (Lowry *et al.,* 2006:2; Liu *et al.,* 2008:931; Rose *et al.,* 2011:29). Kotha *et al.* (2004:111-112) argue that improved website usability could result in buyers being able to search and process information more easily thus converting them into satisfied paying customers.

The results of the studies listed above indicate a positive correlation between usability of a website and customer satisfaction. Therefore, the following hypothesis is stated:

H_1: Customers' perception of the usability of an online retail website is positively correlated with their satisfaction with the online purchase decision.

4.3.2 The relationship between interactivity and online customer satisfaction

Interactivity involves two-way communication or interaction between two parties. *Website interactivity* is defined as any action a user takes, or any action a website takes, while the user is active on that site. Such actions are usually intended to achieve a specific goal, be it information search, retail transactions or entertainment (Lowry *et al.,* 2006:2). Also see Section 3.2.2 for a detailed discussion.

"The level of interaction between the service provider and the customer or amongst customers is normally determined by the degree of interaction embedded in the service provider's website – a key technological capability" (Ba & Johansson, 2008:8). Website interactivity in this instance focuses solely on the interactions between websites and users. Interactivity has been positively related to consumers' attitude towards a website, and captures the essence of interactions in computer-mediated environments (Ba & Johansson, 2008:8).

Rose *et al.* (2011:25) state that several factors including communication and customisation enhance the experience when shopping online. Communication and customisation are integral parts of the *interactivity* construct as defined by Lowry *et al.* (2006). The easier the two-way communication between users and websites, the better the user will perceive the interactivity of the site. Customisation, in turn, positively influences the control that a user feels he or she has to guide the interaction. Reciprocal communication-based interactions between shoppers and retail websites are termed *interactivity* and are an important influence in building online relationships and experiences (Ba & Johansson, 2008:9).

Ballantine (in Dholakia & Zhoa, 2010:486) found that interactivity and product information were positively related to customer satisfaction, while Lorenzo *et al.* (2009:1) found that interactivity does not positively influence the choice of an online vendor. The current study has identified different measurement items for the *interactivity* construct which, according to other studies such as those of Lowry *et al.* (2006) and Dholakia and Zhoa (2010), may challenge the findings of Lorenzo *et al.* (2009).

The results of certain studies such as those of Lowry *et al.* (2006) and Dholakia and Zhoa (2010) indicate a positive correlation between interactivity of a website and customer satisfaction. Therefore, the following hypothesis is stated:

H_2: Customers' perceptions of the interactivity of an online retail website are positively correlated with their satisfaction with the purchase decision.

4.3.3 The relationship between trust and online customer satisfaction

Trust is defined as the willingness of a person (in this case, the online customer) to be vulnerable to the actions of an entity (in this case, the online retailer) based on the expectation that the entity will perform a specific action (in this case, an online transaction). Trust will occur irrespective of the ability of the person to control or influence the entity (Kotha *et al.,* 2004:113). Also see section 3.2.3 for a more detailed discussion.

Lorenzo *et al.* (2009:4) argue that websites must communicate trust and assure the users of the retailer's credibility and integrity. If an element of trust is not apparent, users will not be persuaded to stop and explore the website, will not interact with the website and will ultimately not purchase online from that vendor. Online trust can almost be viewed as a prerequisite to online shopping and the issues of security and privacy are important concerns associated with the risks of online shopping. The construct of *trust* remains an essential part of most online activities, and certainly of online shopping (Artz & Gil, 2007:1). Elliot and Speck (2005:42) point out that trust is critical for online transactions and that online customers fear that their personal data may be misused and that they will become the targets of spam or online scams.

Various studies indicated that online trust is positively linked to online sales, re-purchase intent, customer loyalty and also customer satisfaction (Elliot & Speck, 2005:42; Kotha *et al.,* 2004:113; Lorenzo *et al.,* 2009:4; Liu *et al.,* 2008:930). Kim *et al.* (2007:870) posit that general trustworthiness in an online shopping environment including the safety of online transactions is one of the most critical factors of web service satisfaction.

The results of the studies mentioned above indicate a positive correlation between the trustworthiness of a website and customer satisfaction. Therefore, the following hypothesis is stated:

H_3: Customers' perceptions of the trustworthiness of an online retail website are positively correlated with their satisfaction with the purchase decision.

4.3.4 The relationship between aesthetics and online customer satisfaction

For the purpose of the research, *website aesthetics* is defined as those website attributes that are associated with multimedia effects which increase the aesthetic element of a website and improve its graphic appeal. The aesthetic design of a website not only attracts consumers to the site, but encourages them to browse and make purchases and aids in retaining online customers (Kim *et al.,* 2007:870). Also see Section 3.2.4 for a detailed discussion.

Compared with their traditional counterparts, online stores have a much more limited opportunity to create a desired store atmosphere. This is because the aesthetics of both product and retail environments are experienced by the consumer through the retailer's website and not in a three-dimensional store where all the senses are combined and are under the control of the retailer (Tractinsky & Lowengart, 2007:3). Aesthetics is of paramount importance to the first impression users obtain from online stores. These impressions are important because of the ease with which the shopper may switch to another store almost immediately (Tractinsky & Lowengart, 2007:3). Lorenzo *et al*. (2009:10) found that website aesthetics was one of the main sources of influence in the choice of online retailers by shoppers and included aesthetics as an integral part of the web experience.

Kim *et al.* (2007:871) argue that an aesthetically pleasing website can positively affect attitude towards the retail website, increase customer satisfaction and foster customer loyalty. Vilnai-Yavets and Rafaeli (2006:246) demonstrated that customers of an aesthetically pleasing "virtual servicescape" would be more satisfied than those of a less aesthetically pleasing website.

The results of the studies mentioned above indicate a positive correlation between aesthetics of a retail website and customer satisfaction. Therefore, the following hypothesis is stated:

H_4: Customers' perceptions of the aesthetics of an online retail website are positively correlated with their satisfaction with the purchase decision.

4.3.5 The relationship between perceived online customer service quality and online customer satisfaction

Four elements of the online shopping experience were defined and explained separately in the sections above. Some authors also regard these four elements as part of online customer service (Ba & Johansson, 2008:3; Levenburg & Klein, 2006:127; Rose *et al.,* 2010:28-30; Zeithaml *et al*., 2002:363). Also see Section 3.2.6 for a detailed discussion.

In the study, integral elements of online customer service, excluding website usability, interactivity, trust, aesthetics and the marketing mix elements, are regarded as a separate construct, namely *online customer service quality*.

The reasoning behind this stems from a difference in the literature between a website of which the main purpose is a ***service offering*** from the retailer and a website that offers quality customer service as part of the experience when shopping on that site.

Online customer service quality is defined as those additional benefits provided to customers above and beyond the basic benefits of a certain product or service. These benefits include the following:

- support services;
- recovery services for resolving issues post-sale;
- other extraordinary services that further satisfy customers.

Thus beyond the basic benefits of purchasing a product or service for consumer use, providing consumers with an additional service enables organisations to enhance the

value a consumer derives from a website and create customer loyalty (Levenburg & Klein, 2006:137).

Online customer service quality is further defined as the global judgement, relating to the superiority of the service provided when purchasing a product or service from a retailer's online platform or website (Parasuraman, in Zeithaml *et al.,* 2002:364). Other popular definitions of *service* state that service quality is the difference between what was *expected* of the transaction, and the *actual* perceived service quality of the transaction. In other words, service quality is the general judgement of a consumer's expectation in contrast with the consumer's actual experience with the online retail transaction.

According to Ba and Johansson (2008:4-5), customer satisfaction is influenced by the perceived value of the service a consumer receives from the service delivery system, in this case, the retail website. Customer satisfaction results in customer loyalty, which further results in profit and growth for the retailer.

The results of past studies (Ba & Johansson, 2008:3; Levenburg & Klein, 2006:137; Rose *et al.,* 2011:28-30; Zeithaml *et al*., 2002:363) indicate a positive correlation between perceived customer service quality of a retail website and customer satisfaction. Therefore, the following hypothesis is stated:

H_5: Customers' perceptions of the perceived online customer service quality of an online retail website are positively correlated with their satisfaction with the purchase decision.

4.3.6 The relationship between customers' perceptions of the marketing mix elements and online customer satisfaction

The marketing mix elements, or the 4Ps, are traditionally regarded as the main influencers of consumer behaviour when shopping for products or services. With the emergence of the Internet as a new alternative shopping channel, the relevance of the 4Ps as part of the online shopping experience in this environment needs to be questioned (Lorenzo *et al.,* 2009:4-5). According to Constantinides (2004:120), the marketing mix is an essential contributor to the online shopping experience and includes fulfilment (distribution or place),

product elements, price and promotions. The marketing mix elements in an online setting form part of the website *content* in that all of the 4Ps will be displayed on the site for the customer to experience. How and when they are displayed is under the control of the online retailer and marketing mix elements are known tools to influence online customers' buying behaviour (Constantinides, 2004:121). Also see Section 3.2.5 for a more detailed discussion.

Allen and Fjermestad (2001:19) argue that integrating the traditional marketing mix into a firm's e-commerce strategy would be advantageous for firms in the online environment. Each of the 4Ps in an online retail environment is presented differently to the online consumer from the traditional environment, but they remain important elements to consider in e-commerce. It is essential for retailers in the online environment to still offer the right products, at the right price, delivered to the consumer or available for collection (place), in an enticing or unique way (promotion). Marketing mix elements have long been an integral part of strategic marketing and are utilised by companies to achieve organisational objectives such as customer loyalty, competitive advantage, increased market share and customer satisfaction (Varadarajan, 2010:132).

The results of the studies mentioned above indicate a positive correlation between customers' perceptions of the four traditional marketing mix elements on a retail website and customer satisfaction. Therefore, the following hypothesis is stated:

H_6: Customers' perceptions of the marketing mix elements of an online retail website are positively correlated with their satisfaction with the purchase decision.

4.4 CONCLUSION

This chapter provided the conceptual framework for the study and identified the six online experience elements that were investigated based on relevant literature.

These constructs are as follows:

- usability of an online retail website;
- interactivity of an online retail website;
- trustworthiness of an online retail website;
- aesthetics of an online retail website;
- customer service quality of an online retail website;
- marketing mix elements of an online retail website.

The chapter furthermore discussed how the constructs were taken from various literature themes and how these specific elements were found to overlap in academic themes and models. For the purpose of the study, these six constructs were then combined to obtain a new comprehensive view of online customers' shopping experience.

The chapter then provided a background of each construct and concisely explained why each construct is positively correlated with customer satisfaction with an online purchase decision.

The next chapter focuses on the research design and methodology used to measure the relationships between the experience elements and customer satisfaction.

CHAPTER 5: RESEARCH DESIGN AND METHODOLOGY

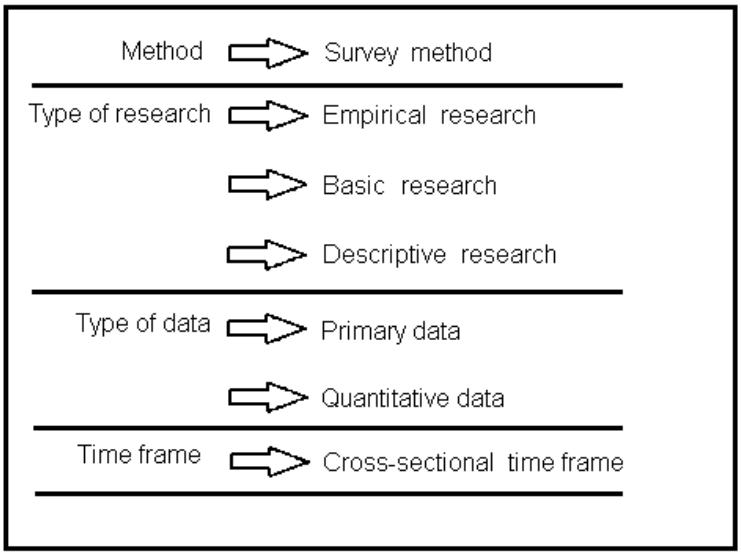
5.1 INTRODUCTION

This chapter describes the research design and methodology used in the study. The broad research design used is discussed first followed by a section on sampling. Thereafter, the data collection methods are discussed, which include sections on the survey method of inquiry, the measurement scales used and the pretesting of the questionnaire. The quality and rigour of the research design is then assessed. This is followed by a review of the data analysis methods used in the study. The chapter concludes with a discussion of research ethics.

5.2 DESCRIPTION OF INQUIRY STRATEGY AND BROAD RESEARCH DESIGN

Cooper and Schindler (2011:138) state that a *research design* is the blueprint for researchers to collect and analyse data. It is a time-based plan based on the research objectives and provides a framework for specifying the relationships among a study's variables. An overview of the broad research design classification for this study is depicted in Figure 4. The inquiry strategy and broad research design will now be discussed.

Figure 4: Broad research design classifications



Source: Adapted from Saunders, Lewis & Thornhill (2009:8-11).

The primary inquiry strategy used in the study was survey research. When using a questionnaire administered to a sample of respondents, a survey allows the collection of quantitative data. Furthermore, data collected from survey questionnaires has been successfully used to investigate particular relationships between constructs and to produce models of these relationships (Saunders, Lewis & Thornhill, 2009:144). The survey method was also used in several previous studies which investigated the same constructs as those investigated in the present study (Elliot & Speck, 2005:42; Flavian *et al.,* 2005:2; Lorenzo *et al.,* 2009:1-14).

Survey research is considered empirical in nature and typically collects numerical data about specific variables from a large sample of respondents using a structured questionnaire. Because the study seeks to understand relationships between a measure of online customer satisfaction and selected predictors thereof from a predominantly academic point of view, it is classified as basic research (Saunders *et al.*, 2009:8).

The study fits the definition of descriptive research because it identifies and describes the key elements of online shopping experience and the relationship of those elements to online shopping satisfaction (Saunders *et al.*, 2009:8).

The survey inquiry strategy is perceived as an authoritative method of quantitative research and the questionnaire used in the study generated numerical data. The study

used primary data, which implies that new data was collected from a sample that had never been used before (Saunders *et al.*, 2009:8).

The study is purely cross-sectional as it describes how web experience factors are related to online customer satisfaction at a particular point in time. It provides a 'snapshot' view of these relationships at a particular time (Saunders *et al.*, 2009:8-9).

Many practical research objectives involve the relationship between a dependent variable of interest and a set of independent variables. In this case, the research question pertains to online customer satisfaction (the dependent or criterion variable) and its relationship with web experience factors (the independent or predictor variables). Multiple regression analysis is a flexible method of data analysis, which is appropriate when a dependent or criterion variable, such as customer satisfaction, is to be examined in relation to other factors, expressed as independent or predictor variables (Berger, 2003:1).

5.3 SAMPLING

Sampling can be defined as the process of selecting particular entities from a specified population to comprise a representative sample of that population (Leedy & Ormrod, 2010:146). Samples should ideally be representative of the entire population from which they are drawn. To meet research objectives where it is impractical to collect data from the entire population, a sample needs to be selected (Saunders *et al.*, 2009:212). The statement holds true for this study because of the impracticality of collecting data from the entire population of individuals who have made one or more online purchases in a three-month period in South Africa. A sample therefore needed to be selected. The sampling plan for the study is described in the next section.

5.3.1 Sampling plan

Target population and units of analysis: The target population for the proposed study was identified as individuals of South African nationality who ‘currently’ resided in South Africa, who had regular Internet access and who had made at least one retail purchase

online within a three-month period prior to being presented with the questionnaire. The units of analysis refer to the individual respondents that participated in the study. One may safely assume that a person who had made an online purchase that 'recently' would have had sufficient memory of the purchase to complete a questionnaire on the various aspects he or she had experienced during the purchase.

Sampling method: Probability sampling is based on the assumption that the sample is chosen statistically at random from the entire population (i.e. every individual has a known chance of being included in the sample). The inability to specify the entire population (every individual in South Africa who had made a 'recent' online retail purchase) and the practical difficulties of reaching such a number of individuals made it impossible to obtain a suitable sampling frame for a probability sample. Therefore, a non-probability sampling method had to be used for the research. With non-probability sampling, it is impossible to assess whether the sample is indeed representative. Previous studies pertaining to online shopping, website attributes and online customer satisfaction also used non-probability sampling methods (Lorenzo *et al.,* 2009:1-14; Flavian *et al.,* 2006:2; Elliot & Speck, 2005:42).

Non-probability sampling or non-random sampling consists of ways to meet research objectives when a sample cannot be randomly obtained and is based on the researcher's subjective judgement (Saunders *et al.,* 2009:233). Because of practical, budget and technological constraints, a combination of non-probability sampling methods was chosen for the study. The non-probability methods of sampling that were identified as appropriate and feasible for the study are a combination of convenience and snowball sampling.

Convenience sampling involves researchers using individuals who are readily available to the researcher and willing to participate (Saunders *et al.,* 2009:233). This method was implemented by the researcher approaching those respondents who were willing to participate and who the researcher was acquainted with through work or social circles.

Snowball sampling is another non-probability sampling procedure whereby subsequent participants are referred by current sample respondents. For the purpose of the study, snowball sampling was used to increase the sample size by asking respondents recruited

through convenience sampling to refer additional participants to the study. According to Saunders *et al.* (2009:241), "Self-selection sampling occurs when you allow each case, usually individuals, to identify their desire to take part in the research". The need for individuals who had made an online purchase 'recently' was publicised through social media, e-mails, word of mouth and online forums. Data was subsequently collected from those who responded. Detailed information on how data was collected is provided in Section 5.4.1.

There are certain disadvantages to non-probability sampling, which are as follows (Zikmund & Babin, 2010:311):

- the inability to generalise to a population parameter;
- the selection of sampling units is arbitrary and relies heavily on the judgement of the researcher;
- technically speaking, projecting the data beyond the sample is statistically inappropriate.

However, according to Zikmund and Babin (2010:311), non-probability samples remain pragmatic, and are still widely used in market research. Researchers find non-probability sampling methods suitable for specific research purposes and while probability sampling may be superior in theory, breakdowns also remain in its application (Cooper & Schindler, 2011:382; Zikmund & Babin, 2010:311).

Sample size: The sample size in the study by Lorenzo *et al.* (2009:10) was made up of 204 participants. In the research prior to this, Constantinides and Geurts (2005:307) used a sample of 85 students in their study dealing with the perceptions of Internet users of the importance of web experience factors on choice of Internet vendor.

A similar study in South Africa by Beneke *et al.*, (2010:212) distributed a questionnaire to 300 participants, 203 of whom met the screening requirements for that study. A sample size of 250 was targeted by Ling *et al.* (2010:63), who used a non-probability sampling method and targeted consumers who had 'recently' made an online retail purchase.

Previous research thus indicates that a sample size of between 200 and 300 participants must be used for the study. The actual sample size obtained was 375 exceeding the size of previous studies mentioned earlier. The size of the sample was also adequate for multiple regression analysis as discussed in Section 6.5.

5.4 DATA COLLECTION

This section discusses the survey method used in the study and reviews the attributes of internet-mediated questionnaires. The questionnaire design, measurement scale and pretesting of the questionnaire are also discussed in this section.

5.4.1 Survey method

Internet-mediated questionnaires are usually administered either via e-mail or via a website (Saunders *et al.,* 2009:395). The survey method of inquiry was used for the study by managing the distribution of a structured questionnaire, hosted on www.qualtrics.com, to an unknown number of potential respondents to ensure a sample of between 200 and 300. The number of potential respondents was unknown to the researcher because respondents were requested in the cover e-mail to forward the link to any other potential respondents. The cover e-mail is included as Appendix C.

The study investigated the elements of the online shopping experience and was not focused on any specific online vendor. Participants in the study were asked to respond to the questionnaire with their last online purchase in mind. A self-administered Internet-mediated questionnaire was deemed appropriate because the research topic deals with online retailing. The assumption was made that participants who qualified to take part in the study would be comfortable with computers and the Internet, having made an online retail purchase prior to completing the questionnaire. Table 7 lists the attributes of Internet-mediated questionnaires and further illustrates the appropriateness of this type of questionnaire.

Table 7: Attributes of Internet-mediated questionnaires

Attribute	Internet-mediated questionnaire
Population's characteristics	Computer-literate individuals who can be contacted by e-mail or Internet
Confidence that right person has responded	High if using e-mail
Likelihood of contamination or distortion of respondent's answers	Low likelihood of distortion or contamination
Size of sample	Large, can be geographically dispersed
Likely response rate	Variable, 30% reasonable in organisations, 11% or lower using Internet
Feasible length of questionnaire	Conflicting advice; however, 'fewer' screens probably better
Suitable types of questions	Closed-ended questions but not too complex, complicated sequencing if uses IT, must be of interest to respondent
Time taken to complete collection	2-6 weeks from distribution depending on number of follow-ups
Main financial resource implications	Web page design, although automated expert systems providers are reducing this dramatically
Role of the interviewer	None
Data input	Usually automated

Source: Adapted from Saunders *et al.* (2009:364).

Leedy and Ormrod (2010:204) conclude that an Internet-mediated sample will be biased to some degree. They identify certain limitations to online questionnaires, which are as follows:

- Participants will be limited to people who are comfortable with computers.
- Participants will have to spend a fair amount of time on the Internet.
- Participants will have to be sufficiently enticed by the research topic.

The Internet-mediated questionnaire was delivered to participants using software provided by Qualtrics, an online research company. All students in the Faculty of Economic and Management Sciences at the University of Pretoria are allowed to make use of the Qualtrics service. The Qualtrics service is easy to use and also offers live support. Live support includes a live chat function where Qualtrics support staff may interact with researchers should they have any queries about any aspect of the questionnaire. Data may be exported into Excel and SPSS and data may be accessed from any location. Furthermore, Qualtrics allows the researcher to specify criteria that respondents must adhere to. All data is securely saved and hosted by Qualtrics and may be viewed or drawn at any time with a secure username and password provided by the University of Pretoria.

The data collection plan for the proposed study was to make use of the Internet's social media capabilities, to target certain individuals in certain work environments, as well as a blanket e-mail approach in order to collect a sample of adequate size. The plan for distributing the survey was mainly Internet-mediated and was divided into two stages.

Firstly, social websites such as www.linkedin.com, www.facebook.com and www.plus.google.com were used to approach regular Internet users in the researcher's social circles to complete the questionnaire. A cover e-mail and link were sent to these individuals and they could complete the survey on the Qualtrics site.

Secondly, the link to this survey was distributed to individuals employed at Telesure Investment Holdings. Specifically, employees in the various sales teams and marketing department were invited to participate with the written consent of the relevant managers of those departments.

Respondents were expected to be computer-literate and habitual users of e-mail for work purposes. Because of the variable response rate, a large number of potential respondents were targeted to ensure suitable sample size. Not every potential respondent would complete the questionnaire. Therefore, the more the link was distributed, the more responses could be obtained.

After distributing the link to the survey to these groups through the convenience and snowball sampling methods discussed above, only 110 respondents were surveyed. This was achieved in a two-month period.

The researcher then contacted Consulta Research, a marketing research firm based in Pretoria, and requested assistance with the distribution of the questionnaire to suitable respondents. Consulta Research agreed to include a link to the survey questionnaire with a short introduction to the study, as an optional choice on one of its own survey distributions to the Consulta e-mail database. One week later a sample size of more than 400 respondents was achieved. After an initial check of the data was completed and certain problematic respondents removed, a final sample of 375 was obtained.

A combination of measurement scales from various research studies was used to measure the respondents' perceptions of the online shopping experience elements as well as their overall satisfaction with the decision to purchase from a certain online vendor. The original measurement scales for online shopping experience elements can be viewed in Appendix A. The various measurement scales from the literature were slightly adapted to appear homogeneously for the respondents and not cause any confusion. Proven reliable and valid scale items were selected from various studies to best reflect each of the online shopping experience constructs that the present study had to measure. Table 8 contains the scale items used to measure each of the six online shopping experience factors. All items were measured on a 7-point Likert scale.

Table 8: Measurement scale items for online shopping experience elements

Experience element	Measurement scale items	Source
Website usability	I thought the website was easy to use I found the website very cumbersome to use [R] I felt very confident using the website I think I would need assistance to be able to use this website [R] I was highly satisfied with the hyper-links displayed on the website I was overwhelmed by information displayed confusingly on the website I was content with the information displayed on the website	Tullis and Stetson (2004:8-12)
Website interactivity	I found the search function on the website to operate excellently I was always aware of where I was, and where I was going on the website I was confident in exploring the site and using hyper-linked functions I felt that the website provided me with an opportunity to express my feelings/opinions to the online retailer if I wanted to [R] I think the website was delayed and slow to respond to any of my actions [R]	Ba and Johansson (2005:37-38), Cai and Jun (2003:519), Lorenzo *et al.* (2009:7-8)

Experience element	Measurement scale items	Source
Trust	I felt my personal privacy was respected on the website I was comfortable with the reputation of the online retailer I was nervous that the vendor would behave opportunistically [R] I was uncertain that the web retailer would keep its promises and obligations [R] I think the retailer is trustworthy and honest I found the website unsecure [R]	Ling *et al.* (2010:75), Lorenzo *et al.* (2009:7-8)
Website aesthetics	I found the design of the website to be superb I was unhappy with the atmosphere created by the website [R] I thought the site was very unattractive and unappealing to my senses [R] I felt the graphic detail on the website was of outstanding quality I thought there could be more multimedia elements such as music, graphics and videos incorporated into the website design [R] I thought the design of the website was innovative and modern	Cai and Jun (2003:519), Liu *et al.* (2008:938-939), Lorenzo *et al.* (2009:7-8)
Customer service	I felt the vendor guided me throughout the buying process effectively I found the purchasing, paying and ordering process to be very complicated and time consuming [R] I found reviews by other customers regarding their buying experience was readily available I was happy with all communication from the vendor to me and the timing of the communications I found the retailer made a lot of mistakes throughout the process I think the vendor was unable to exceed my expectations [R]	Ba and Johansson (2005:37-38), Cai and Jun (2003:519),
Marketing mix factors	I was pleased with the product range offered by the website I found the pricing of the online retailer to be very competitive I felt the promotions offered by the vendor to be very attractive I think the distribution and fulfilment process was reliable	Lorenzo *et al.* (2009:13)

Source: Adapted from, Ba and Johansson (2005:37-38), Cai and Jun (2003:519), Ling *et al.* (2010:75), Lorenzo *et al.* (2009:13), Liu *et al.* (2008:937-939), Tullis and Stetson (2004:8-12).

The measurement scale for overall online customer satisfaction used by Liu *et al.* (2008:938) was chosen for this study. The original scale can be viewed in Appendix A. This scale has proved to be both reliable and valid and does not only reflect overall customer satisfaction, but also puts emphasis on the most recent online purchases, which

was appropriate for the study. The following four statements were used to measure *overall customer satisfaction* with an online purchase decision:

- If I had to do it over again, I would again make a purchase from this website.
- My choice to purchase from this website was a wise one.
- I have truly enjoyed purchasing from this website.
- I am satisfied with my most recent decision to purchase from this website.

5.4.2 Pretesting

The questionnaire was pretested in advance of being administered for data collection in order to ensure respondents had as few problems as possible with the completion thereof. To prevent problems with self-administered questionnaires, Saunders *et al*. (2009:294) advise that the following questions should be examined during a pretest:

- Does is take too long to complete the questionnaire?
- Are the instructions clear and concise?
- Are there questions that were unclear or ambiguous?
- Are there questions that the respondent felt was inappropriate?
- Were there any major topic omissions?
- Was the layout of the questionnaire clear and attractive?
- Did the pretest respondents have any other comments or concerns?

The link to the questionnaire as well as the questionnaire itself was tested by 11 of the researcher's friends and colleagues to solve the questions mentioned above. The steps involved in the pretesting are discussed in the following section.

Of the 11 participants in the pretest, one was known to not shop online. The reason for this was to ensure the screening questions at the start of the questionnaire functioned correctly. The other 10 were qualified respondents, who made an online purchase within the three-month period prior to completing the survey.

After completion, the participants in the pretest were firstly asked for feedback on the time it took to complete the questionnaire, the clarity of the instructions, the functionality of the Qualtrics software and the overall layout of the questionnaire.

After these basic issues were considered, the testers were asked about the topics, or experience factors and whether or not the statements made sense to them, and whether they experienced these aspects when shopping online.

Pretesting respondents were then asked for feedback on the use of positively and negatively worded statements being a problem. The use of the scale mid-point was also examined to determine whether this option was sensible.

The pretesters were finally asked to provide any feedback on the appropriateness of the questionnaire.

Eight of the pretesters worked with the researcher and after completion were briefly interviewed for feedback regarding the questionnaire in a controlled environment. The other two pretesters were interviewed via a telephone conversation. The feedback regarding the questionnaire was predominantly positive and is summarised as follows:

- The link functioned correctly as well as the Qualtrics software. The questionnaire was displayed in a professional manner with the University of Pretoria's branding prominent.
- The instructions were clear and the qualifying questions functioned correctly.
- No one had a problem with the time it took to complete the questionnaire online. The average completion time for the 10 pretesters was 5 minutes and 37 seconds. The cover message was subsequently altered from 30 minutes estimated completion time to 15 minutes.
- None of the pretesters had a problem with the negatively worded statements.
- No statement or question was deemed to be inappropriate.
- The scale mid-point was a concern for three of the 10 pretesters, providing feedback to the researcher that they were unsure whether this meant 'does not know' or neutral feeling towards the statement. The researcher felt it was unnecessary to alter

the questionnaire for three reasons: firstly, only a very small percentage of scale mid-point responses were captured; secondly, only three out of 10 pretesters had an issue with the scale mid-point; and, thirdly, these three pretest respondents indicated it would have made no difference to the answer, should the wording have been different.

- There were concerns with two grammatical errors in the questionnaire, which were corrected.

The final version of the questionnaire is included as Appendix B.

5.5 ASSESSING AND DEMONSTRATING THE QUALITY AND RIGOUR OF THE PROPOSED RESEARCH DESIGN

The quality of a survey method of inquiry with a structured questionnaire is reflected in the reliability and validity of the measurement scales used. Researchers should be aware that their statistical findings to some extent depend on how well the focal constructs have been measured. According to Leedy and Ormrod (2010:275), a valid (accurate) and reliable (consistent) measure of constructs is a necessity when testing for correlations between these constructs. This section assesses the reliability and validity considerations for the study.

5.5.1 Reliability assessment

Reliability refers to the extent to which a scale generates consistent results when the environment surrounding the constructs has remained the same (i.e. when the constructs have not been changed). Factors that may influence the reliability of the data collected include participant bias. This is managed through the use of a structured questionnaire, a detailed and concise set of instructions as well as an internal consistency test.

"*Internal consistency reliability* is the extent to which all of the items within a single instrument yield similar results" (Leedy & Ormrod, 2010:93). It therefore measures the consistency of responses for a certain group of questions pertaining to a specific construct.

The internal consistency reliability of the scores collected through each multiple-item rating scale for each construct was assessed using Cronbach's alpha. A Cronbach's alpha value of .70 or above is regarded as the minimum value needed for good internal consistency reliability. This measure was used to evaluate the internal consistency reliability of the scores collected through each multiple-item rating scale. See Chapter 6, Section 6.4 for a detailed discussion.

5.5.2 Validity assessment

Validity in this case refers to the extent to which a scale or a subset of questions measure the construct that it is supposed to measure. An important consideration for the study was *construct validity*, which is the extent to which the questionnaire would accurately be able to measure characteristics that are not directly observable (constructs). To increase construct validity, measurement scales from previous studies were used, which had been subject to peer evaluation and published in academic journals (Leedy & Ormrod, 2010:28).

Convergent validity is another way of expressing internal consistency. It refers to the degree to which scores on one scale or measure correlate with scores on other scales or measures, designed to assess the same construct (Cooper & Schindler, 2011:282). Highly reliable scales contain convergent validity (Zikmund & Babin, 2010:251).

Discriminant validity represents the uniqueness of a scale. An example of discriminant validity taken from Zikmund and Babin (2010:251) states that: "a measure of *customer satisfaction* should not correlate too highly with a measure of *cognitive dissonance*, should the two constructs truly be different". As a general guideline when two scales are correlated above 0.75, discriminant validity might prove problematic.

According to Zikmund and Babin (2010:251), multivariate techniques such as factor analysis can be useful in establishing construct validity for multidimensional scales. Exploratory factor analysis was used to verify that items empirically form the intended subsets to measure the various individual constructs. This is discussed in more detail in Chapter 6, Section 6.3.

It is also important to note that the purpose of the study was to investigate correlations between variables and not to investigate cause-and-effect relationships as found in experimental studies. The quantitative data collected reflects that a relationship exists between these constructs. The data does not give definitive conclusions to which these constructs influence one another in a causal sense (Leedy & Ormrod, 2010:275).

5.6 DATA ANALYSIS

Apart from the specific online vendor which was used for the respondent's last online purchase, all data was captured in quantitative form. Completed questionnaires were all captured in web-based format using Qualtrics and were exported to Excel format for further analysis using SPSS. The study used two multivariate data analysis techniques, namely *exploratory factor analysis* and *multiple regression analysis*. These techniques are discussed in detail in Chapter 6.

5.7 RESEARCH ETHICS

Ethics in research entails that a researcher respects the rights of research participants, the academic community and anyone else affected or involved with their research. It entails that the entire research process is completed with appropriate behaviour towards all parties involved. *Research ethics* refers to the appropriate design, structure and execution of research so that it is both methodologically sound and morally defensible to everyone involved (Saunders *et al.,* 2009:183-184).

The University of Pretoria stipulates that ethical approval in accordance with the University's Code of Research Ethics should be obtained before the execution phase of postgraduate research. This process took place once the proposal had been accepted by the Department of Marketing Management and involved the following steps:

- formal appointment of a supervisor and co-supervisor;
- title registration and submission of memorandum of understanding;
- submission of application for ethical clearance to the Faculty's Research Ethics Committee.

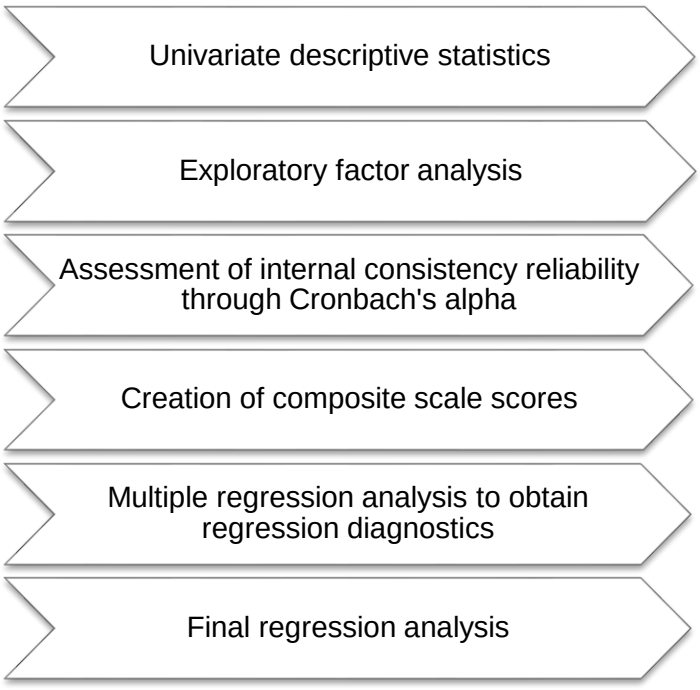
Formal approval for this study was obtained from the Research Ethics Committee of the Faculty of Economic and Management Sciences at the University of Pretoria on 27 July 2012.

CHAPTER 6: EMPIRICAL FINDINGS OF THE STUDY

6.1 INTRODUCTION

This chapter presents the empirical findings of the study. The first section consists of a background of correlations, followed by a discussion of appropriate descriptive statistics for all questions in the survey questionnaire. This is followed by a discussion of factor analysis, the various techniques that were used and the results. Thereafter, a discussion of the multiple regression analysis results follows. Figure 5 shows a brief process chart, which outlines the main phases of the analyses conducted.

Figure 5: Phases of analyses conducted



6.2 UNIVARIATE DESCRIPTIVE STATISTICS

This section describes the univariate descriptive statistics for individual questions in the survey questionnaire. A demographic profile of the respondents is provided below. This is followed by the descriptive statistics for all individual scale items. Then an explanation of

where correlation fits into the data analysis of this study is provided. Statistics for composite and total scores are discussed in the factor analysis section.

6.2.1 Demographic profile of respondents

The final usable sample size numbered 375 respondents (n = 375). Of the 375 respondents who completed the questionnaire, 374 indicated that they resided in South Africa at the time. One of the respondents did not indicate whether or not he or she currently resided in South Africa at the time. It was assumed that this respondent resided in South Africa at the time and all 375 responses were analysed. The home language indicators of the 375 respondents are shown in Table 9.

Table 9: Home language of respondents (n = 375)

Home language	Number of respondents
English	193
Afrikaans	136
Zulu	14
Sotho	14
Xhosa	5
Tsonga	3
Venda	1
Other	9

The majority of the respondents were English and Afrikaans speaking, which did not provide a correct demographic representation of the South African population. It was not the intention of the study to realise a representative sample of all South African online retail shoppers. This is identified as a limitation to the study (see Chapter 7, Section 7.5). This demographic did therefore not give an indication of which home language speakers had the means to shop online.

Of the 375 respondents, 205 indicated they were male and 170 indicated that they were female giving the sample a slight male bias. The average age of the sample was 42.9 years with a minimum age of 22 and a maximum age of 82. Two respondents did not indicate their age.

Table 10 indicates the provinces where the respondents resided when taking the questionnaire.

Table 10: Residential province of respondents (n = 375)

Province	Number of respondents
Gauteng	222
KwaZulu-Natal	58
Western Cape	63
Free State	4
Mpumalanga	5
Limpopo	4
Northern Cape	2
Eastern Cape	12
North West	5

The majority of respondents resided in Gauteng with the Western Cape in second place followed closely by KwaZulu-Natal. The smaller provinces follow in order from largest contribution to smallest: the Eastern Cape, North West and Mpumalanga, Free State and Limpopo, and lastly, the Northern Cape with only two respondents.

6.2.2 Descriptive statistics for the individual questions in the questionnaire

All 375 respondents indicated how many online retail purchases they had made in the three months prior to completing the questionnaire. This information is displayed in Table 11.

Table 11: Number of purchases made by respondents (n = 375)

Online purchases	Number of respondents
One	67
Two	82
Three	83
Four	37
Five	18
More than five	88

The first column depicts the number of online purchases that the respondents could choose from in the questionnaire. The second column indicates the number of

respondents in relation to the number of online purchases made. A total of 88 respondents had made more than five online purchases, with 82 and 83 respectively making two and three online purchases within the three months prior to taking the questionnaire. This gives an indication that the respondents were relatively frequent online shoppers.

Table 12 provides information on the different online retailers that were captured in the responses. This information was collected through an open-ended question that asked respondents to enter the online retailer's name from which they had made their last purchase. Online retailers that were not mentioned by more than four respondents were grouped together and classified as 'Other'. The total number of 'Other' online retailers numbered 141. Each of these retailers was mentioned three times or less. The online retailers mentioned most were Kalahari (67), Amazon (29), Groupon (24), Bid or Buy (22) and Takealot (21).

Table 12: The various online retailers mentioned by respondents (n = 374)

Retailer	Number of respondents
Kalahari	69
Amazon	29
Groupon	24
Bid or Buy	22
Takealot	21
Zandos	11
Itunes	11
Computicket	7
Pick n Pay Online	7
Ebay	6
Kulula	6
Netflorist	6
Loot	5
Citymob	4
Yuppichef	4
Other	143

The abstract constructs investigated in the study were all measured on 7-point multiple-item Likert scales (see Table 13). As mentioned in Chapter 4, the statements were all adapted from similar statements used in previous studies with proven reliability and validity

(Ba & Johansson, 2005:37-38; Cai & Jun, 2003:519; Ling *et al.,* 2010:75; Lorenzo *et al.*, 2009:13; Liu *et al.,* 2008:937-939; Tullis & Stetson, 2004:8-12).

The scale point labels ranged from 1 = 'Strongly Disagree' to 7 = 'Strongly Agree'. The scale mid-point (4) was labelled 'Neither Agree nor Disagree'.

The number of respondents who completed each scale item as well as the mean and standard deviation for each of the scale items is shown in Table 13. The statements which were negatively worded in the actual questionnaire are identified in the table by "**(Reversed)**" at the end of the relevant statements and by "**(Rev)**" at the end of the relevant question number. The mean scores for the negatively worded question were altered to reflect this. Composite (total) scores for each of the measured constructs are discussed in Section 6.4.

Table 13: Summary of statement, responses, mean and standard deviations

Question number	Statements	N	Mean	Std. Deviation
Usability statements				
2.1	I thought the website was easy to use.	375	5.947	1.108
2.2 **(Rev)**	I found the website very cumbersome to use. **(Reversed)**	375	4.949	1.800
2.3	I felt very confident using the website.	375	5.845	1.192
2.4 **(Rev)**	I think I would need assistance to be able to use this website. **(Reversed)**	375	5.979	1.326
2.5	I was highly satisfied with the hyper-links on the website.	375	5.373	1.223
2.6 **(Rev)**	I found the website confusing and overwhelming. **(Reversed)**	375	5.968	1.210
2.7	I was content with the information displayed on the website.	370	5.743	1.065
Interactivity statements				
3.1	I found the search function on the website to be available.	375	5.765	1.210
3.2	I felt I could easily make contact with a staff member of the online retailer if I had to.	375	4.763	1.629
3.3	I was always aware of where I was, and where I was going on the website.	375	5.760	1.129
3.4	I was confident in exploring the site and using hyper-linked functions.	375	5.704	1.168
3.5 **(Rev)**	I felt unable to express any feelings and/or opinions to the online retailer. **(Reversed)**	373	4.643	1.644
3.6 **(Rev)**	I think the website was delayed and slow to respond to any of my actions. **(Reversed)**	373	5.220	1.625
Trust statements				
4.1	I felt my personal privacy was respected on the website.	375	5.861	1.004

Question number	Statements	N	Mean	Std. Deviation
4.2	I was comfortable with the reputation of the online retailer.	375	5.992	1.051
4.3 **(Rev)**	I found the website unreliable. **(Reversed)**	375	5.944	1.234
4.4 **(Rev)**	I was uncertain that the online retailer would keep its promises and obligations. **(Reversed)**	375	4.821	1.970
4.5	I think the retailer is trustworthy and honest.	375	5.864	1.215
4.6 **(Rev)**	I felt that the website was unsecure. **(Reversed)**	375	5.800	1.250
Aesthetics statements				
5.1	I felt the graphic detail on the website was of outstanding quality.	375	5.235	1.260
5.2 **(Rev)**	I was unhappy with the atmosphere created by the website. **(Reversed)**	375	5.573	1.374
5.3	I found the design of the website to be superb.	375	5.101	1.286
5.4	I thought the design of the website was innovative and modern.	375	5.024	1.301
5.5 **(Rev)**	I thought the site was very unattractive and unappealing to my senses. **(Reversed)**	375	5.587	1.361
5.6 **(Rev)**	I thought there could be more multimedia elements such as music, graphics and videos incorporated into the website design. **(Reversed)**	375	4.816	1.707
Customer service statements				
6.1	I felt the website guided me throughout the buying process effectively.	375	5.880	1.015
6.2 **(Rev)**	I found the purchasing, paying and ordering process to be very complicated and time consuming. **(Reversed)**	375	5.611	1.350
6.3	I found reviews by other customers regarding their buying experience were readily available.	375	3.643	1.639
6.4	I was happy with all communications from the online retailer to me and the timing of the communications.	375	5.635	1.379
6.5 **(Rev)**	I think the online retailer was unable to exceed my expectations. **(Reversed)**	375	5.005	1.580
6.6 **(Rev)**	I found the retailer made a lot of mistakes throughout the process. **(Reversed)**	375	5.824	1.452
Marketing P statements				
7.1	I was satisfied with the product range offered by the website.	375	5.771	1.189
7.2	I found the pricing of the online retailer to be competitive.	375	5.595	1.282
7.3	I felt the promotions offered by the online retailer to be attractive.	375	5.427	1.228
7.4	I think the distribution and fulfilment process was reliable and happened in a timely manner.	375	5.691	1.442
Customer satisfaction statements				
8.1	If I had to do it over again, I would repeat my most recent online purchase on this website.	375	5.888	1.371
8.2	I felt my choice to purchase from this website was a wise one.	375	5.867	1.249
8.3	I have truly enjoyed purchasing from this website	375	5.621	1.376
8.4	I am satisfied with my most recent decision to purchase from this website.	374	5.842	1.274
8.5	I feel that the online retailer satisfied my needs as a customer.	370	5.868	1.221

6.2.3 Correlation

Previous research indicates that the six web experience factors investigated in this study are all positively correlated with online customer satisfaction (see Figure 4). Since correlations form the basis for both exploratory factor analysis and multiple regression analysis, the nature of correlations is explored in this section. “The statistical process by which we discover whether two or more variables are in some way associated with one another is called *correlation*” (Leedy & Ormrod, 2010:273). The resulting statistic from a correlation between two variables such as website usability (one of the web experience factors or independant variables in the study) and online customer satisfaction (the dependent variable in this study) is called a *correlation coefficient*, and is a number between -1 and +1. A correlation coefficient is under most circumstances a decimal number somewhere between these two extremes, which indicates the strength and direction of the linear relationship between two numeric variables (Leedy & Ormrod, 2010:273).

The direction of the relationship is indicated by the number being positive or negative. A positive number indicates a positive correlation (i.e. as one variable increases, the other variable also increases), while a negative number indicates a negative correlation (i.e. as one variable increases, the other variable decreases) (Leedy & Ormrod, 2010:273).

The strength of the linear relationship is indicated by the size of the decimal number between +1 and -1, where +1 or -1 would mean a perfect correlation. A strong correlation would be close to +1 or -1, for example, -.85 or .9. A weak correlation would be close to the zero mark, for example, -.12 or .23 and a moderate correlation would be represented by decimals around the .4 and .5 mark positive or negative (Leedy & Ormrod, 2010:273).

6.3 EXPLORATORY FACTOR ANALYSIS

Factor analysis is a ‘data reduction’ technique used to take large sets of variables and summarise those variables into smaller, coherent and more manageable groups. Factor

analysis is often used prior to other analysis techniques such as multiple regression analysis (Pallant, 2007:180).

Two main approaches to factor analysis exist, namely exploratory and confirmatory factor analysis. *Exploratory factor analysis* is used to explore the interrelationship between sets of variables in the earlier stages of research. *Confirmatory factor analysis* is defined as a method used later in the research process to test whether specific hypotheses or theories concerning the underlying structure of a set of variables are indeed correct (Pallant, 2007:181).

Pallant (2007:181) further distinguishes between two sets of exploratory factor analysis techniques, namely principal components analysis and factor analysis. Both these techniques attempt to identify a smaller number of factors that account for most of the variance in the original variables. “The term ‘factor analysis’ encompasses a variety of different although related techniques” (Pallant, 2007:181).

The words *factor analysis* in this study refers to ‘exploratory factor analysis’ or EFA. In the study, several rounds of EFA analyses were conducted using principal axis factoring with direct oblimin rotation. In each round, items that cross-loaded on more than one factor with factor loadings ≥.4 or items that did not load strongly (with a loading of at least .4) on any factor were removed. In the process, 20 of the original 40 scale items were removed. The findings reported are for the final EFA solution – a six-factor solution based on 20 items. The final EFA results represent the clearest, most defensible EFA solution. Exploratory factor analysis is an iterative process. The three main steps in how exploratory factor analysis was conducted are discussed in more detail in the following section.

6.3.1 Assessment of the suitability of the data

Two main issues arise when considering factor analysis for a set of data, namely sample size and the strength of the relationship among the variables.

The general consensus regarding sample size is the larger, the better. Factors from relatively small data sets (e.g. 150 cases) do not generalise as well as those from larger sets (e.g. 300+ cases). The correlation coefficients among variables of small data sets are also less reliable. Recommendations by authors on the subject include that there must be at least 10 cases for each factor to be analysed, while others argue that five cases per factor analysed are sufficient (Pallant, 2007:182). The sample size of more than 370 in this case is sufficient in both instances, as there are 62.5 cases for each initial factor identified in the study (375(n) / 6 = 62.5).

With regard to the strength of the intercorrelations among scale items, Tabachnick and Fiddel (in Pallant, 2007:183) state that most correlation coefficients should be greater than three for factor analysis to be appropriate. Pallant (2007) identifies two statistical measures that may be used to determine the factorability of the data: Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. Barlett's test of sphericity should indicate statistical significance with $p < .05$ to be appropriate. The KMO measure requires a minimum value of .6 (range from 0 to1) for factor analysis.

To determine whether the data of the present study was suitable for exploratory factor analysis, the correlation matrix of scores on Q2.1 to Q8.5 was examined. Most of the correlation coefficients were larger than .3, indicating that the data was suitable for an exploratory factor analysis (Pallant, 2007). Table 14 shows the results of the KMO measure of sampling adequacy and Bartlett's test of sphericity.

Table 14: Kaiser-Meyer-Olkin and Bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy.		.899
Bartlett's test of sphericity	Approx. chi-square	4477.985
	df	190
	Sig.	.000

The Kaiser-Meyer-Olkin value was .899, exceeding the recommended value of .6 and Barlett's test of sphericity was statistically significant (p < .001). The factorability of the data set was supported by these methods.

6.3.2 Factor extraction

"Factor extraction involves determining the smallest number of factors that can be used to best represent the interrelationships among the set of variables" (Pallant, 2007:183). The first step was to determine the correct extraction method. Principal axis factoring is the most widely used method of factor extraction in practice. This method uses squared multiple correlations as the estimates of communalities, which are then entered into the correlation matrix before factors are extracted. The conceptual approach of this method may be more suitable in a social science environment than the mathematically simpler approach of principal components analysis.

Principal axis factoring, also referred to as common factor analysis, is most appropriate when (Hair, Black, Babin & Anderson, 2010:107-108):

- The primary objective is to identify the underlying constructs represented in the original variables.
- The researcher has limited knowledge about the amount of specific and error variance, and wishes to eliminate this variance.

Principal axis factoring as a method of data extraction is more commonly reported in social and behavioural science, and is more familiar to most readers than principal components analysis (Warner, 2007:784-785).

Principal axis factoring was chosen as the appropriate factor extraction method with direct oblimin rotation. The most common techniques to assist in finding the appropriate number of underlying factors are:

- Kaiser's criterion;
- scree test;
- parallel analysis.

These techniques are discussed in the following section.

6.3.2.1 Kaiser's criterion

One technique that is used most commonly to assist when determining how many factors to retain is Kaiser's criterion. Kaiser's criterion, or the eigenvalue rule, requires that only factors with eigenvalues of 1.0 or more be retained. The eigenvalue represents the amount of the total variance explained by a specific factor (Pallant, 2007:184). Principal axis factoring was used as a factor extraction method and indicated five principal components with eigenvalues of above 1 and a sixth with an eigenvalue of .996, which was also retained because of its proximity to the appropriate eigenvalue of 1. These six factors explain 74.27% of the total variance among the factors as can be seen in Table 15.

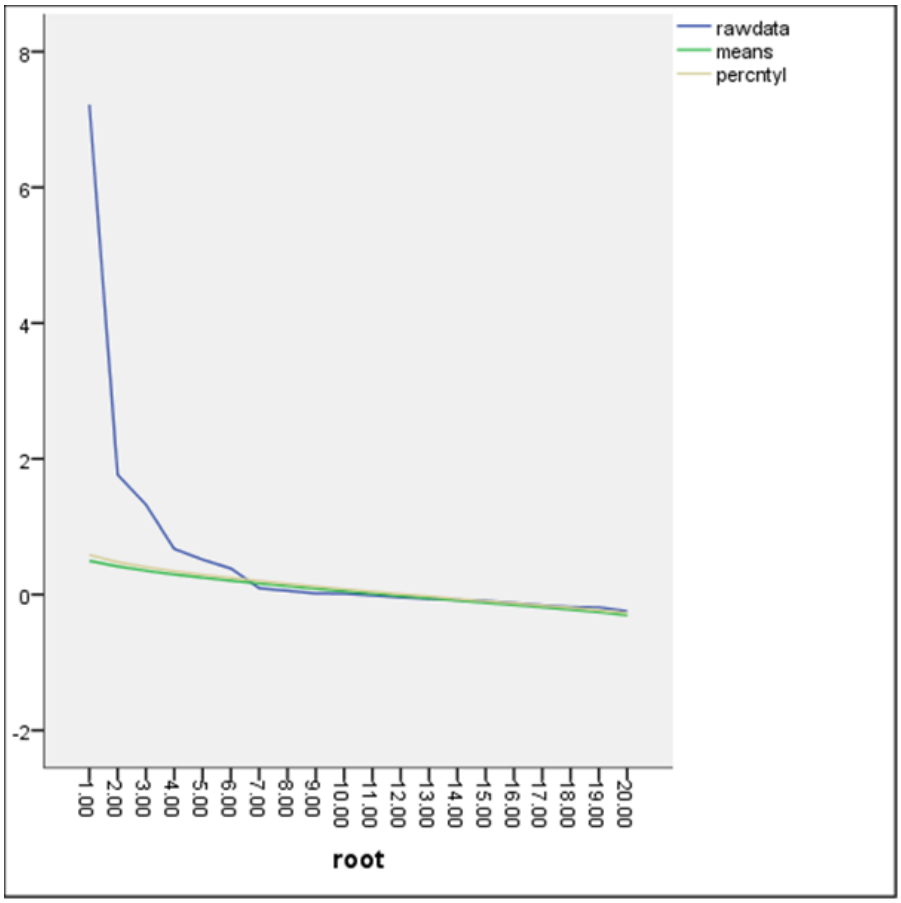
Table 15: Eigenvalues and total variance of factors

Factor	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.574	37.870	37.870	7.289	36.445	36.445
2	2.148	10.742	48.612	1.815	9.076	45.521
3	1.830	9.148	57.760	1.429	7.146	52.668
4	1.230	6.151	63.911	.830	4.150	56.817
5	1.076	5.378	69.289	.664	3.320	60.137
6	.996	4.981	74.270	.648	3.241	63.378
7	.668	3.342	77.612			
8	.636	3.180	80.791			
9	.584	2.922	83.713			
10	.553	2.765	86.478			
11	.449	2.243	88.721			
12	.405	2.024	90.745			
13	.398	1.991	92.736			
14	.322	1.612	94.348			
15	.286	1.428	95.775			
16	.226	1.132	96.908			
17	.196	.978	97.886			
18	.177	.887	98.773			
19	.139	.695	99.468			
20	.106	.532	100.000			

6.3.2.2 Scree test

Catell's scree test is another method of determining how many components should be extracted. Figure 6 shows the scree plot, indicating a point in the graph often referred to as 'the elbow' where the slope of the graph goes from very steep (vertical) to very flat (horizontal).

Figure 6: Scree plot



Catell recommends retaining all factors above the elbow, as they would explain the bulk of the variance in the data set (Pallant, 2007:184). In this case, the break in the plot (or elbow) is after the sixth component, which explains 74.27% of the variance in the data set. Using the scree test, the decision to retain six factors was further enforced.

6.3.2.3 Parallel analysis

Horn's parallel analysis is another method of determining which components to retain when using factor analysis and compares eigenvalues between a specific data set and another which is randomly generated (O'Connor, 2000:397). The eigenvalues from the

original data are compared to the eigenvalues of the randomly generated data set. Eigenvalues that exceed the corresponding values from the randomly generated set are retained. This technique is gaining popularity in the social sciences and is considered to be the most accurate in identifying the correct number of factors to retain. For example, if a data set consists of 300 observations and there are five variables, then a set of data matrices of this size (300 x 5) would be randomly generated. The eigenvalues would be computed for the randomly generated set of values and compared with the original data set's eigenvalues (O'Connor, 2000:397). The parallel analysis in the study was conducted with the SPSS scripts developed by O'Connor (2000).

A parallel analysis of the data in this study also supported the retention of six components, indicating that six components exceeded the eigenvalues of those randomly generated. Table 16 shows the results of this comparison and the decision to retain six factors taken from the SPSS factor analysis output.

Table 16: Parallel analysis results

Principle axis factoring/common factor analysis & raw data permutation
Specifications for this run:
Ncases 370
Nvars 20
Ndatsets 500
Percent 95

Raw Data Eigenvalues, & Mean & Percentile Random Data Eigenvalues			
Root	Raw Data	Means	Prcntile
1.000000	7.219173	.497238	.583831
2.000000	1.765099	.414949	.476628
3.000000	1.324586	.351236	.405630
4.000000	.673399	.296796	.343773
5.000000	.515323	.248587	.291850
6.000000	.384972	.204721	.246424
7.000000	.093373	.163516	.200515
8.000000	.055859	.123843	.158801
9.000000	.017003	.085988	.119248
10.000000	.013951	.049055	.081350
11.000000	-.011535	.013293	.043391
12.000000	-.041653	-.021853	.006569
13.000000	-.060809	-.055876	-.024007
14.000000	-.076513	-.089397	-.064910

15.000000	-.090470	-.121292	-.096843
16.000000	-.124668	-.153627	-.128285
17.000000	-.157547	-.187299	-.160821
18.000000	-.181153	-.222195	-.192937
19.000000	-.188711	-.259398	-.231824
20.000000	-.243982	-.305489	-.270926

6.3.3 Factor rotation and interpretation

Once factors have been identified, the final step is to interpret them. To assist with the interpretation process, factors are rotated to present a pattern of loadings in a manner that is easy to understand. SPSS shows which variables 'clump' together and possible interpretations may be proposed by the researcher based on underlying theory and the literature review. There are two approaches to rotation, resulting in either orthogonal (uncorrelated) or oblique (correlated) factor explanations. The solutions derived from orthogonal approaches are easier to interpret but require assumptions that underlying constructs are not correlated. These assumptions are usually incorrect. Pallant (2007:197) recommends starting with oblique rotations to check the degree of correlation between factors. Oblique rotations are more difficult to interpret while still allowing for the factors to be correlated. A common oblique rotation technique provided by SPSS is direct oblimin. This technique was identified as the most appropriate for the study and the results are discussed in the following section.

After rotating the six-factor solution SPSS provided three tables in the output for consideration. Pallant (2007:197) advises the researcher to first look at the component correlation matrix at the end of the SPSS output. The component correlation matrix is shown in Table 17. This table indicates the strength of the relationship between the six factors and indicates whether it was reasonable to assume that the six components were not highly interrelated.

Table 17: Component correlation matrix

Factor	1	2	3	4	5	6
1	1.000					
2	.387	1.000				
3	.307	.282	1.000			
4	-.395	-.373	-.176	1.000		

5	.337	.316	.248	-.156	1.000	
6	.519	.348	.109	-.206	.263	1.000

Pallant (2007:198) states that a value of more than .3 indicates a strong correlation. In this case, the correlations between some of the six components were strong. Strong correlations between factors were identified as follows:

- Factor 1 indicated a strong correlation with all other factors in the six-factor solution.
- Factor 2 was strongly correlated with factors 1, 4, 5 and 6.
- Factor 3 was strongly correlated with factor 1 only.
- Factor 4 was strongly correlated with factors 1 and 2.
- Factor 5 was strongly correlated with factors 1 and 2.
- Factor 6 was strongly correlated with factors 1 and 2.

Because of the strong correlation between the retained factors, further analysis of the oblimin rotation was needed. The oblimin rotation output in SPSS provided two additional tables of loadings. These were a pattern matrix and a structure matrix. These tables gave information on the factor loadings of the individual questions in the questionnaire that were retained to arrive at the six-factor solution. An important difference between these loadings, according to Kleinbaum, Kupper and Muller (1988:621) is that “pattern loadings are not really correlation coefficients between variables and factors, whereas structure loadings do represent such correlations”. The pattern matrix remains very useful in the interpretation of rotated factors.

The pattern matrix displayed in Table 18 indicates the factor loadings on each of the scale items per retained factor. The highest-loading items on each of the factors are shown in bold. This gives an indication of which of the variables measure which factor, and also guides the identification of the six factors that were retained.

Table 18: Pattern matrix

	Factor					
	1	2	3	4	5	6
	Customer satisfaction	**Aesthetics**	**Usability**	**Trust**	**Interactivity**	**Marketing Ps**
Customer satisfaction 8.4	**.951**	.007	-.005	-.016	-.006	-.055
Customer satisfaction 8.2	**.937**	-.080	.002	-.003	.030	.014
Customer satisfaction 8.5	**.883**	.097	-.015	-.050	-.009	-.030
Customer satisfaction 8.1	**.818**	-.044	-.028	-.031	-.056	.066
Customer satisfaction 8.3	**.782**	.122	-.025	.019	.080	.077
Aesthetics 5.3	.065	**.888**	-.102	-.068	.050	-.023
Aesthetics 5.4	.031	**.801**	-.070	-.051	-.047	.055
Aesthetics 5.1	-.031	**.730**	.012	-.151	.068	.094
Aesthetics 5.5rev	.046	**.594**	.263	.142	.023	-.005
Usability 2.6rev	.036	.113	**.734**	.035	.023	.061
Usability 2.4rev	-.006	-.045	**.666**	.007	-.069	.044
Usability 2.2rev	-.044	-.040	**.551**	-.049	.037	-.065
Customer service 6.2rev	.085	.134	**.478**	-.211	.042	-.023
Usability 2.1	.120	.144	**.377**	-.187	.146	.087
Trustworthiness 4.2	.180	-.002	.115	**-.760**	-.001	.057
Trustworthiness 4.1	.039	.129	.089	**-.651**	.057	.041
Interactivity 3.2	-.050	.024	-.129	-.136	**.799**	.009
Interactivity 3.5rev	.100	-.001	.154	.155	**.428**	.041
Marketing Ps 7.3	-.076	.124	-.070	.009	-.012	**.911**
Marketing Ps 7.2	.097	-.092	.053	-.032	.029	**.592**

The structure matrix displayed in Table 19 provides information on the correlation between all factors and variables.

Table 19: Structure matrix

	Factor					
	1	2	3	4	5	6
Customer satisfaction 8.4	.927	.358	.283	-.381	.303	.442
Customer satisfaction 8.2	.924	.299	.276	-.351	.324	.480
Customer satisfaction 8.5	.917	.440	.287	-.425	.315	.468
Customer satisfaction 8.3	.882	.463	.274	-.360	.394	.540
Customer satisfaction 8.1	.819	.281	.209	-.337	.220	.463
Aesthetics 5.3	.409	.917	.191	-.410	.332	.336
Aesthetics 5.1	.387	.832	.263	-.443	.340	.383
Aesthetics 5.4	.353	.817	.169	-.354	.222	.341
Aesthetics 5.5rev	.305	.638	.424	-.146	.268	.231
Usability 2.6rev	.330	.350	.783	-.166	.264	.198
Usability 2.4rev	.178	.132	.638	-.090	.091	.079
Customer service 6.2rev	.369	.386	.587	-.381	.258	.175
Usability 2.2rev	.107	.106	.537	-.106	.137	-.022
Usability 2.1	.460	.443	.534	-.396	.378	.318
Trustworthiness 4.2	.544	.403	.309	-.862	.221	.319
Trustworthiness 4.1	.414	.444	.270	-.747	.246	.265
Interactivity 3.2	.247	.274	.086	-.229	.781	.216
Interactivity 3.5rev	.251	.173	.267	.014	.486	.190
Marketing Ps 7.3	.415	.385	.036	-.181	.223	.902
Marketing Ps 7.2	.407	.188	.135	-.172	.207	.630

Identification and labelling of factors were easy, and customer service was the only main component to be removed. The *customer service* construct did not load strongly on a separate distinctive factor. Instead, the items loaded on several other factors. This indicated that the items measuring customer service did not have convergent and discriminant validity. Customer service as a web experience factor therefore proved, according to the factor analysis techniques used above, to be too strongly correlated with the other web experience factors derived from the literature review.

The six factors and the relevant remaining questions were identified. Each of these remaining factors, the relevant question number and the statement from the questionnaire are listed as follows:

- **Factor 1 (dependent variable) = Customer satisfaction**, consisting of:
  - Q8.1 If I had to do it over again, I would repeat my most recent online purchase on this website.
  - Q8.2 I felt my choice to purchase from this website was a wise one.
  - Q8.3 I have truly enjoyed purchasing from this website.
  - Q8.4 I am satisfied with my most recent decision to purchase from this website.
  - Q8.5 I feel that the online retailer satisfied my needs as a customer.
- **Factor 2 (independent variable) = Aesthetics**, consisting of:
  - Q5.1 I felt the graphic detail on the website was of outstanding quality.
  - Q5.3 I found the design of the website to be superb.
  - Q5.4 I thought the design of the website was innovative and modern.
  - Q5.5 I thought the site was very unattractive and unappealing to my senses. (Reversed)
- **Factor 3 (independent variable) = Usability**, consisting of:
  - Q2.2 I found the website very cumbersome to use. (Reversed)
  - Q2.4 I think I would need assistance to be able to use this website. (Reversed)
  - Q2.6 I found the website confusing and overwhelming. (Reversed)
  - Q6.2 I found the purchasing, paying and ordering process to be very complicated and time consuming. (Reversed)
  - Q2.1 I thought the website was easy to use.
- **Factor 4 (independent variable) = Trust**, consisting of:
  - Q4.1 I felt my personal privacy was respected on the website.
  - Q4.2 I was comfortable with the reputation of the online retailer.
- **Factor 5 (independent variable) = Interactivity**, consisting of:
  - Q3.2 I felt I could easily make contact with a staff member of the online retailer if I had to.
  - Q3.5 I felt unable to express any feelings and/or opinions to the online retailer. (Reversed)
  -

- **Factor 6 (independent variable) = Marketing Ps,** consisting of:
  - Q7.2 I found the pricing of the online retailer to be competitive.
  - Q7.3 I felt the promotions offered by the online retailer to be attractive.

The marketing Ps construct remained after exploratory factor analysis, and was measured by two of the initial four statements. The initial four statements each represented one of the four elements of the marketing mix (i.e. product, price, promotion and distribution). The two remaining statements specifically measured the pricing and promotion aspects of the marketing mix as can be seen above. Therefore, the *marketing mix* construct in this study refers to the *promotion* and *pricing* elements of the marketing mix.

6.4 RELIABILITY ANALYSIS

The measuring instrument was refined using exploratory factor analysis. Certain scale items were removed and a six-factor solution was identified as most appropriate for the data. These six factors were measured by 20 remaining scale items. The six factors were identified and the reliability of the scale items associated with each factor will now be discussed.

The *reliability* of data collection techniques refers to the extent to which these findings will yield consistent results. Reliability estimates the degree to which a scale is free of random or unstable error (Saunders *et al.*, 2009:156).

Internal consistency is a term used by researchers to represent a scale's homogeneity (Zikmund & Babin, 2010:248). The internal consistency of a scale is one of the most important measures of reliability and can be measured by correlating scores on subsets of items making up the measurement scale. A commonly used measurement to assess the internal consistency reliability of multiple-item scales such as the one used for this study is Cronbach's alpha. A Cronbach's alpha of at least .70 or above is generally regarded as the minimum value needed for good internal consistency.

Six constructs were measured using a multiple-item scale, these constructs are as follows:

- usability;
- interactivity;
- trust;
- aesthetics;
- marketing Ps;
- customer satisfaction.

The reliability output from SPSS of each of these constructs will now be discussed. Table 16 to 21 provide the Cronbach's alpha for each construct. Other information in these tables is as follows:

- **The corrected item to total correlation:** This refers to the correlation of each item included in the scale to the total scale score and it should have a value of at least .50 (Hair *et al.,* 2006:137).
- **The Cronbach's alpha in case of the scale item being removed:** This shows what the Cronbach's alpha would equate to should that specific scale item be removed from the scale.

6.4.1 Internal consistency reliability of the items associated with online customer satisfaction

Table 20 indicates a Cronbach's alpha of .950 for the items measuring the construct *online customer satisfaction*. This construct was measured using five scale items.

Table 20: The internal consistency reliability of items measuring the *online customer satisfaction* construct

Cronbach's alpha	N of Items	
.950	5	
	Corrected item to total correlation	Cronbach's alpha if item deleted
Customer satisfaction 8.4	.894	.934
Customer satisfaction 8.2	.891	.935
Customer satisfaction 8.5	.890	.934
Customer satisfaction 8.1	.796	.951
Customer satisfaction 8.3	.856	.940

The deletion of one scale item (Item 8.1) would have increased the Cronbach's alpha by .001. It was, however, decided to retain this item due to the small value of the change. The Cronbach's alpha of .95 was larger than the suggested minimum value of .70. All values in the 'item to total correlation' column exceeded the recommended minimum of .50. These values indicated that the scale measuring *online customer satisfaction* had acceptable internal consistency reliability.

6.4.2 Internal consistency reliability of the items associated with aesthetics

Table 21 indicates a Cronbach's alpha of .889 for the items measuring the construct *aesthetics*. This construct was measured using four scale items.

Table 21: The internal consistency reliability of items measuring the *aesthetics* construct

Cronbach's alpha	N of Items	
.889	4	
	Corrected item to total correlation	Cronbach's alpha if item deleted
Aesthetics 5.3	.841	.824
Aesthetics 5.4	.770	.851
Aesthetics 5.1	.796	.842
Aesthetics 5.5rev	.628	.906

The deletion of one scale item (Item 5.5rev) would have increased the Cronbach's alpha by .017 and it was decided to retain that item due to the small value of the change. The Cronbach's alpha of .889 was larger than the suggested minimum value of .70. All values in the 'item to total correlation' column exceeded the recommended minimum of .50. These values indicated that the scale measuring *aesthetics* had acceptable internal consistency reliability.

6.4.3 Internal consistency reliability of the items associated with usability

Table 22 indicates a Cronbach's alpha of .788 for the items measuring the construct *usability*. This construct was measured using five scale items.

Table 22: The internal consistency reliability of items measuring the *usability* construct

Cronbach's alpha	N of Items	
.788	5	
	Corrected item to total correlation	Cronbach's alpha if item deleted
Usability 2.6rev	.682	.717
Usability 2.4rev	.583	.743
Usability 2.2rev	.478	.800
Customer service 6.2rev	.585	.742
Usability 2.1	.596	.746

The deletion of one scale item (item 2.2rev) would have increased the Cronbach's alpha slightly by .012. It was, however, decided to retain this item due to the small magnitude of the change. The Cronbach's alpha remained higher than the suggested minimum value of .70.

Only one value in the 'item to total correlation' column did not exceed the recommended minimum of .50 and the item was retained because it was only .012 less than the recommended value.

One of the scale items (i.e. Customer service 6.2rev) was initially thought to have measured online customer service but after factor analysis this scale item was found to load on a single factor along with the items measuring *usability*. This item was thus included to measure the *usability* construct.

These values indicated that the scale measuring *usability* had sufficient internal consistency reliability.

6.4.4 Internal consistency reliability of the items associated with online trust

Table 23 indicates a Cronbach's alpha of .950 for the items measuring the construct *online customer satisfaction*. This construct was measured using two scale items.

Table 23: The internal consistency reliability of items measuring the *online trust* construct

Cronbach's alpha	N of Items	
.869	2	
	Corrected item to total correlation	Cronbach's alpha if item deleted
Trustworthiness 4.1	.770	.
Trustworthiness 4.2	.770	.

The Cronbach's alpha was higher than the suggested minimum value of .70. All values in the 'item to total correlation' column exceeded the recommended minimum of .50. These values indicated that the scale measuring *online trust* had sufficient internal consistency reliability. SPSS does not provide value for the Cronbach's alpha if an item is deleted when only two scale items are involved.

6.4.5 Internal consistency reliability of the items associated with interactivity

Table 24 indicates a Cronbach's alpha of .520 for the items measuring the construct *interactivity*. This construct was measured using two scale items.

Table 24: The internal consistency reliability of items measuring the *interactivity* construct

Cronbach's alpha	N of Items	
.520	2	
	Corrected item to total correlation	Cronbach's alpha if item deleted
Interactivity 3.2	.351	.
Interactivity 3.5rev	.351	.

The Cronbach's alpha of .52 was smaller than the recommended value of .70. The 'item to total correlation' value of .351 is also below the recommended value of .50. The researcher decided to retain this construct for two reasons: firstly, on the basis that factor

analysis suggested a six-factor solution, and the removal of the interactivity construct would result in a five-factor solution; secondly, the two remaining scale items were the only items left able to measure one of the key constructs according to the reviewed literature, namely *interactivity*. The two remaining scale items that measured the *interactivity* construct gave the best possible scenario for measuring this construct even though the internal consistency reliability was not ideal. This was identified as a limitation of the study and is discussed further in Section 7.6 of Chapter 7.

6.4.6 Internal consistency reliability of the items associated with the marketing Ps

Table 25 indicates a Cronbach's alpha of .744 for the two items measuring the construct *marketing Ps*. This construct was measured using five scale items.

Table 25: The internal consistency reliability of items measuring the *Marketing Ps* construct

Cronbach's alpha	N of Items	
.744	2	
	Corrected item to total correlation	Cronbach's alpha if item deleted
Marketing Ps 7.2	.593	.
Marketing Ps 7.3	.593	.

The Cronbach's alpha was higher than the suggested minimum value of .70. All values in the 'item to total correlation' column exceeded the recommended minimum of .50. These values indicated that the scale measuring marketing Ps had sufficient internal consistency reliability. SPSS does not provide value for the Cronbach's alpha if an item is deleted when only two scale items are involved.

Composite scores were created for the six retained factors by averaging respondents' answers to the items measuring each construct. The means and standard deviation of these composite scores are shown in Table 26.

Table 26: Descriptive statistics calculated on the composite scores representing each of the main constructs identified by the factor analysis (n = 375)

	Mean	Std. deviation
Factor 1: Customer satisfaction	5.804	1.222
Factor 2: Aesthetics	5.237	1.127
Factor 3: Usability	5.691	1.015
Factor 4: Trustworthiness	5.927	.966
Factor 5: Interactivity	4.704	1.349
Factor 6: Marketing Ps	5.511	1.120

The composite scores described in Table 21 were used in a regression analysis. The results of this analysis are discussed in the next section.

6.5 MULTIPLE REGRESSION ANALYSIS

Multiple regression analysis was used to test a regression model based on the six factors identified in the factor analysis. Multiple regression analysis is a variety of techniques used to explore the relationship between one continuous dependent variable (in this case, customer satisfaction) and a number of independent variables (in this case, the five remaining online shopping experience elements). This type of analysis allows for comprehensive exploration of the interrelationships between sets of variables, which makes it appropriate for complex research questions (Pallant, 2007:148).

Multiple regression indicates how much of the variance in the dependent variable can be explained by the independent variables. It also gives an indication of the strength and direction of the relationships between the independent variables and the dependent variable and will determine if these relationships are statistically significant.

A multiple regression analysis was conducted and the process that was followed is discussed in this section. Firstly, the objectives of multiple regression analysis are discussed. This is followed by a discussion of important assumptions about the relationships between the dependent and independent variables. Thereafter, the overall fit of a multiple regression model is discussed followed by an interpretation of the analysis and the results.

6.5.1 Objectives of multiple regression analysis

Multiple regression analysis is one of the most widely used multivariate statistical techniques and may be used for a number of research purposes (Hair *et al.,* 2010:170). The starting point for using multiple regression is the research problem, which should consist of a single dependent variable and a set of independent variables. According to Hair *et al.* (2010:171), three primary issues need to be considered in selecting a suitable application of this technique:

- appropriateness of the research problem;
- specification of a statistical relationship;
- selection of the dependent and independent variables.

The two broad classes of research problems that are appropriate for multiple regression analysis are as follows:

- **prediction,** which involves the extent to which the independent variables are able to predict the dependent variable;
- **explanation,** which attempts to explain a substantive or theoretical reason why the independent variables have an effect on the dependent variable. This is done by examining the regression coefficients.

According to Hair *et al.* (2010:171), "Multiple regression is appropriate when the researcher is interested in a statistical, not a functional, relationship". A *functional relationship* calculates exact values free of error. A *statistical relationship* estimates prediction and explanation values based on a sample of observations. When the assumptions underlying multiple regression are met, it allows for unbiased predictions of the dependent variable and valid interpretation of the independent variables based on statistical theory.

The selection of the dependent and independent variables is the next stage of multiple regression and following a review of the literature as well as factor analysis, the independent and dependent variables were identified.

According to Hair *et al.* (2010:171), *multiple regression* is a dependence technique which allows for the researcher to decide on the dependent and independent variables. The researcher should consider the following three issues that may have an effect on the decision:

- *Strong theory*: The selection of variables should be based on theoretical grounds irrespective of the objective.
- *Measurement error*: This refers to the degree to which the dependent variable is an accurate and reliable measure of the concept taken from the theory. If the dependent variable has significant measurement error, the independent variables will not be able to fulfil the prediction or explanation objectives.
- *Specification error*: Specification error is a problem that occurs when selecting the independent variables. Two types of specification errors exist, namely the inclusion of irrelevant variables and the exclusion of relevant variables.

The objective of multiple regression analysis is to explain and describe the effect of the independent variables on the dependent variables. This study is specifically concerned with the statistical relationship between a single dependent variable and a number of independent variables. The research is based on a review of recent academic literature and by using exploratory factor analysis as discussed in Section 6.5, measurement and specification errors were dealt with. Multiple regression is therefore a suitable technique for the research problem.

The next section focuses on the assumptions that have to be considered with such analysis.

6.5.2 Assumptions of multiple regression analysis

For multiple regression analysis to be appropriate, a number of assumptions concerning the data have to be made. Hair *et al.* (2010: 175) state that it is essential to thoroughly check the various assumptions associated with multiple regression analysis in order to identify possible limitations of the data analysis. The assumptions are discussed in the following section

6.5.2.1 Sample size requirements of multiple regression analysis

Firstly, sample size should be considered to ensure generalisability, or that the results may be repeated with other samples.

Tabachnick and Fidell (in Pallant, 2011:150) recommend using a specific formula: N > 50 + 8m (where m equals the number of independent variables). The recommended minimum sample size for this study was thus 50 + 8(5) = 90.

Hair *et al.* (2010:176) state that multiple regression analysis requires a suggested ratio of observations to variables of 20:1. In this, study there were five independent variables, suggesting a sample size of at least 100.

The actual sample size was 375, which was more than sufficient for multiple regression suggested in both cases above.

6.5.2.2 Multicollinearity

Secondly, multicollinearity and singularity must be considered, which refer to the relationship between the various independent variables. Multicollinearity between independent variables mean that they are highly correlated (r = .9 and above). Singularity occurs when one independent variable consists of other independent variables. When multicollinearity or singularity is present, it will negatively affect the multiple regression model (Pallant, 2007:158).

SPSS provided a correlation table that is displayed in Table 27. This table indicates the strength of the relationships between the dependent and independent variables included in the regression model. According to Pallant (2007:158), these values should be .30 or higher to indicate a strong enough relationship with the dependent variable (online customer satisfaction). The researcher also checked whether the correlations between the independent variables were not too high. Pallant (2007:158) suggests that independent variables should not have a correlation of more than .70 in the same analysis.

Table 27: Correlations between the independent variables included in the regression analysis

	Customer satisfaction	Aesthetics	Usability	Trustworthi-ness	Interactivity	Marketing Ps
Customer satisfaction	1					
Aesthetics	.521	1				
Usability	.476	.484	1			
Trustworthiness	.621	.574	.543	1		
Interactivity	.288	.287	.238	.206	1	
Marketing Ps	.545	.428	.291	.413	.212	1

The independent variable *online customer satisfaction* was strongly correlated (above .30) with all the dependent variables except with *interactivity*, where the correlation coefficient was .288. As discussed earlier, the *interactivity* construct is an integral part of the literature although issues with the internal consistency reliability of the items measuring this construct were discovered. The correlation coefficient of .288 was only .012 smaller than the recommended .30 and the construct was retained for these reasons. None of the independent variable were too strongly correlated (above .70) with one another.

SPSS also provided additional collinearity diagnostics in the form of tolerance and variance inflation factor (VIF) values. These values may indicate problems regarding multicollinearity, which may not appear in the correlation table (Pallant, 2007:158). The results of these diagnostics are displayed in Table 28.

Table 28: Tolerance and VIF values from additional collinearity diagnostics

	Correlations			Collinearity statistics	
	Zero-order	Partial	Part	Tolerance	VIF
(Constant)					
F2_Aesthetics	.521	.114	.080	.577	1.732
F3_Usability	.476	.145	.102	.653	1.531
F4_Trustworthiness	.621	.353	.261	.555	1.801
F5_Interactivity	.288	.125	.087	.897	1.115
F6_MarketingPs	.545	.355	.262	.768	1.301

Dependent Variable: F1_CSat

Tolerance indicates how much of the variability of an independent variable is not explained by the other independent variables. Pallant (2011:158) explains that a tolerance value of less than .10 would mean that there is a high level of correlation between variables,

suggesting possible multicollinearity. The v*ariance inflation factor* values are simply the inverse of the tolerance values. Values of 10 and above would suggest multicollinearity. All tolerance values for the independent variables were above .10 and all VIF values were well below 10, indicating no multicollinearity between the independent variables.

6.5.2.3 Normality, linearity and homoscedasticity

Lastly, normality, linearity, homoscedasticity and independence of residuals refer to various aspects of the score distribution in the data and were also considered. These aspects relate to the underlying relationship between variables. Assumptions are checked using a residual scatterplot and histogram generated by SPSS as part of the multiple regression procedure. The term *residuals* is defined as the difference between the actual and the predicted dependent variable (DV) scores (Hair *et al.*, 2010:177).

The residual scatterplot allows investigating the following:

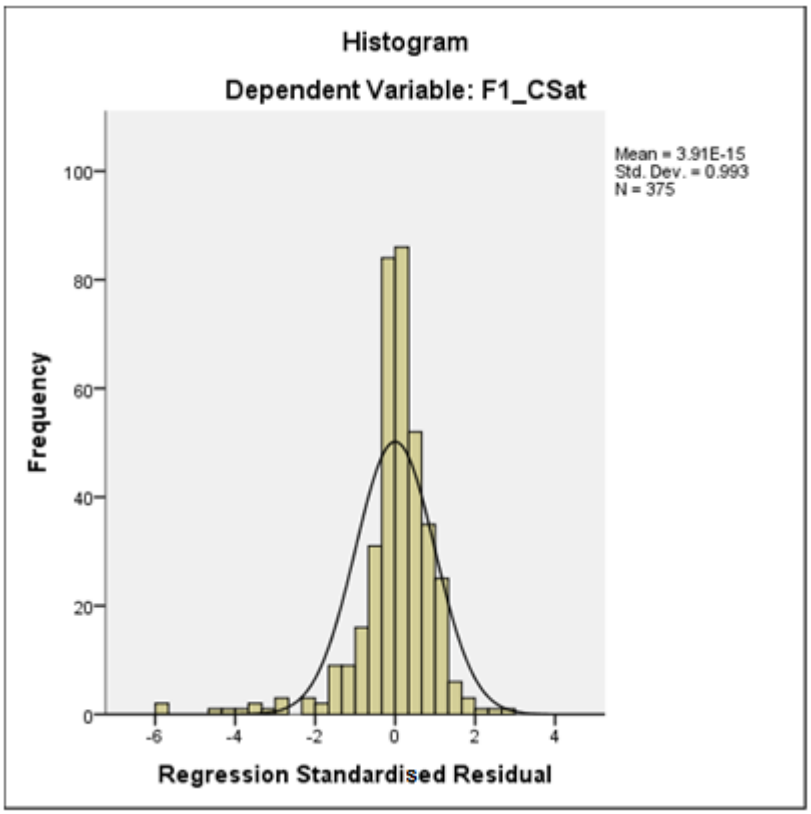
- *Normality*: The residuals are normally distributed about the dependent variable scores.
- *Linearity*: The residuals have a straight-line relationship with predicted dependent variable scores.
- *Homoscedasticity*: The variance of the residuals about dependent variable predicted scores are the same for all predicted scores.

The simplest test for normality is a visual examination of a histogram which compares actual data values with approximated normal distribution values. Figure 7 shows the histogram of the standardised residuals obtained from the SPSS output. Normality is indicated when the residuals are normally distributed in a bell shape. The results from SPSS do not indicate a normal distribution of residuals meeting the assumption of normality. The histogram indicates that the distribution of residuals is more peaked than one would expect from a normal distribution. There are also clearly ‘outlier’ cases with standardised residuals < -4. This is confirmed by the normal probability plot in Figure 8.

Wiliams, Grajales and Kurkiewicz (2013:11) explain that a normal distribution of errors is not critical, especially in large samples. The larger the sample, the lesser the weight of this

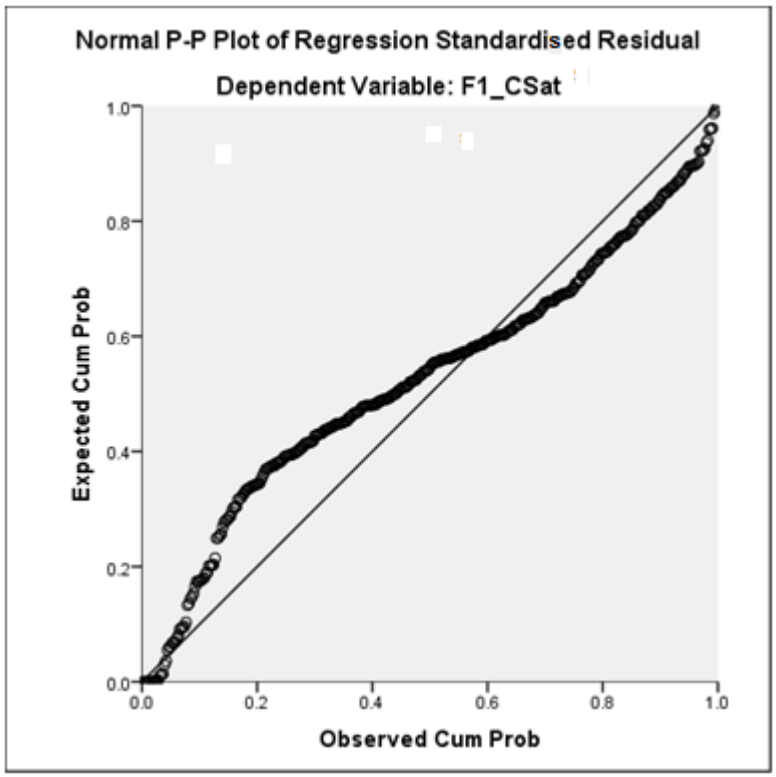
assumption. Wiliams *et al.* (2013:11) conclude that normally distributed errors are not required for regression coefficients to be unbiased, but this assumption is required for trustworthy significance tests and confidence intervals in small samples. As explained in Chapter 5, Section 5.3.1, the sample size of the current study was considered to be large, especially when compared with similar studies.

Figure 7: Histogram of normally distributed residuals



A normal probability plot compares the cumulative distribution of actual data values with the cumulative distribution of a normal distribution. A normal distribution would be indicated by a straight diagonal line and if the assumption of normality is met, the line representing the actual data would closely follow the straight line (Hair *et al.,* 2010:72). Figure 8 shows a normal probability plot of the standardised residuals indicating that the actual data does stray from the straight diagonal line confirming an abnormal distribution.

Figure 8: Normal probability plot of standardised residuals



According to Hair *et al.* (2010:183), "The linearity of the relationship between the dependent and independent variables represents the degree to which the change in the dependent variable is associated with the independent variable". Because correlation is based on a linear relationship between variables, linearity has to be present. Linearity can be examined through residual plots from the regression output taken from SPSS. Figure 9 depicts the residual scatterplot and shows a random array of observations around the zero. The cloud of scatterplots in Figure 9 is narrow on both sides and that could be interpreted as heteroscedasticity (Hair *et al.,* 2010:184). Had the dots illustrated triangular or curved-shaped forms, this would have indicated non-linearity and heteroscedasticity.

Field (2009:198, 316, 350) notes that problems with the normality and homoscedasticity assumptions of multiple regression can largely be overcome by using the bootstrapping methods implemented in SPSS. Bootstrapping validates a multivariate model by drawing a number of subsamples, and estimating models for each of those subsamples (Hair *et al.,* 2010:22). The mean of each estimated coefficient is calculated across all the subsample models. This allows the calculation of parameter values for the set of models. This

approach does not rely on statistical assumptions to determine whether a parameter differs from zero and examines the actual values from the repeated samples.

Problems with both the assumptions of normally distributed errors and homoscedasticity can be dealt with by using the bootstrapping procedure in SPSS to obtain bootstrapped confidence intervals and p-values for the regression coefficients (Field, 2009:316, 352-353). Because of potential problems with the assumptions of normally distributed errors and homoscedasticity, a bootstrapped regression analysis is included in the results below.

6.5.2.4 Outliers and influential cases

The third factor to consider when using multiple regression is very high or very low scores in the data set. This issue, also referred to as outliers, should form part of the initial data screening (Pallant, 2007:151).

Outliers are defined as individual data values that are significantly smaller or larger than the other values in a specific data set. These values may represent recording errors and could influence the suitability of the regression model. Outliers may be viewed in terms of how representative they are in terms of the total data set. Outliers are not necessarily beneficial or problematic and should be viewed in context of the analysis. It is up to the researcher to determine whether or not they are a viable and/or important part of the population, and whether they should be retained or discarded (Hair *et al.*, 2010:64-65).

The four types or classes of outliers that exist are as follows:

- procedural errors or data entry errors, which are mistakes;
- extraordinary events, which include observations as a result of an unforeseen or rare event;
- extraordinary observations, which have no clear explanation;
- observations, which fall in the ordinary range of values. These observations are not particularly high or low on the variables, but are unique in their combination of values.

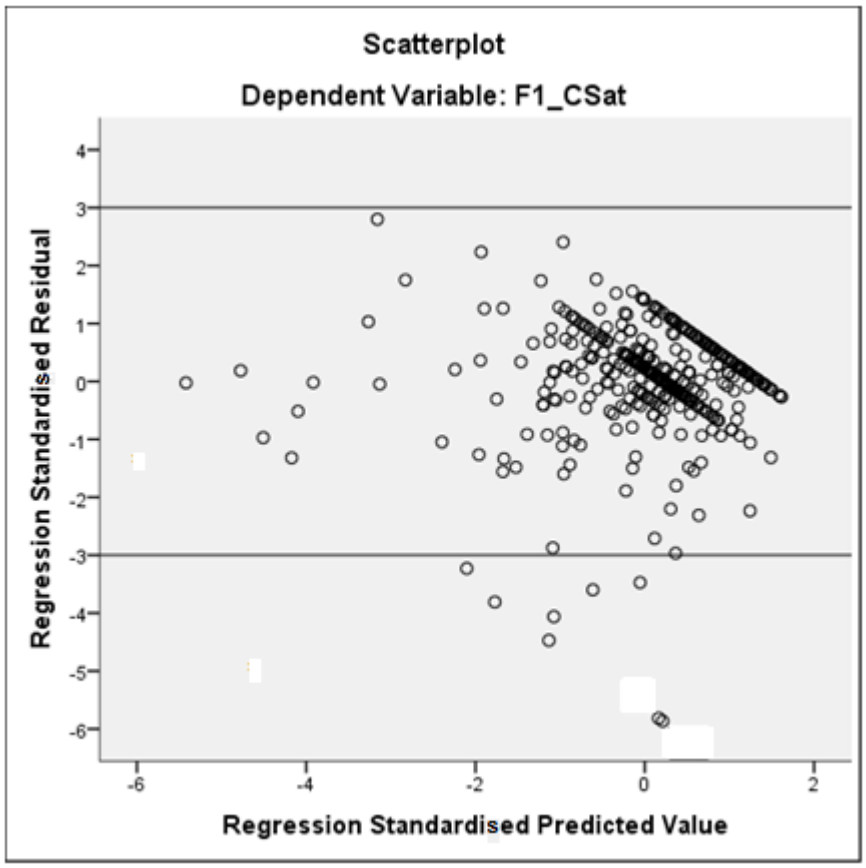
Field (2009:306) describes “influential cases” as outliers that “… exert undue influence over the parameters of the model”. The key question to answer is whether one would get

different regression coefficients if these influential cases were removed. The following section discusses the identification of outliers in the data set of the current study, followed by a review of any influential observations.

➢ Identifying outliers

Figure 9 depicts the scatterplot from the SPSS output. Cases that fall well outside the range of the other observations can be viewed as isolated or distant points in the scatterplot, namely as *outliers*. Their standard deviation values are significantly more or less than the mean (which is 0).

Figure 9: Residual scatterplot



To identify outliers for larger sample sizes such as this, when using multiple regression, the rule of thumb is a standard deviation of 3 more or less than the mean, according to Hair *et al.* (2010:67). Any case with a standardised residual > 3 or < -3 is therefore an outlier and potentially also an influential case.

An inspection of the standardised residuals indicated that there were eight cases with standardised residuals < -3. The dependent variable values of these cases were relatively poorly predicted by the regression model. These eight cases were Case 24, 244, 264, 347, 461, 525, 535 and 600.

Another method for detecting outliers in multivariate analyses is the Mahalanobis distances. This is an assessment of each observation across a set of variables, which measures the distance in a multidimensional space from the mean centre of all observations. It provides a single value per observation regardless of the number of variables (Hair *et al.,* 2010:66). Higher Mahalanobis distances represent observations farther removed from the general distribution of observations. With five predictor variables, cases with Mahalanobis distances > 20.52 are outliers (Pallant, 2010:159-160).

An inspection of the Mahalanobis distances indicated that there were nine cases with Mahalanobis distances larger than the critical value of 20.52 for a model with five predictors (Pallant, 2010:159). These 9 cases were Cases 1, 3, 7, 10, 46, 188, 219, 267 and 643. However, none of these outlier cases had large standardised residuals.

Outliers have been identified above. It will be determined in the following section whether any of these cases influence the regression model.

- **Influential cases:**

Cook's distance is a regression diagnostic and measures the influence of an observation on a regression model. This measure assesses how much the regression coefficients are changed by deleting a specific observation (Kleinbaum, Kupper & Muller, 1988:200). Field (2009:306, 348) states that any observation with a Cook's distance value of > 1 will influence the model. An inspection of Cook's distances indicated that no cases had Cook's distances larger than 1. This indicated that none of the outliers identified above had an undue influence on the regression model.

The difference between a regression parameter estimated using all cases and the same parameter estimated with a specific case excluded is known as the DFBeta. DFBeta

values are calculated for each case in a data set and for each of the parameters in the regression model. Field (2009:308) recommends that one should look for cases with standardised DFBeta values > |1| (i.e. larger than an absolute value of 1) as such cases have a substantial influence on the model parameters. An inspection of the standardised DFBeta values produced by SPSS indicated that no cases had values > |1|.

Finally, Field (2009:348) recommends that one should calculate the upper and lower limits of acceptable values for the covariance ratio (CVR) as follows:

- upper CVR limit = 1 + [3(k + 1)/n]
- lower CVR limit = 1 – [3(k + 1/n)]

where k is the number of predictors and n is the sample size.

Cases that have a CVR that falls substantially outside these limits may be problematic (Field, 2009:347).

In the current study, the upper CVR limit is 1 + [3(5+1)/375] = 1.048 and the lower CVR limit is 1 - [3(5+1)/375] = 0.952. An inspection of the CVR values generated by SPSS indicated that 16 cases had CVR values larger than the upper limit and 16 cases had CVR values smaller than the lower limit. However, none of these cases were problematic on any of the other diagnostic measures.

Field (2009:309) and Williams *et al*. (2013:11) warn against overfitting a regression model by deleting a potentially problematic case "… unless there is a valid substantive reason to consider it as an invalid observation" (Wiliams *et al*., 2013:11).

The regression diagnostics mentioned above indicated that there were indeed outlier cases in the data set, but none of these cases seem to have had an undue influence on the regression model. It was consequently decided to retain all the cases in the final regression analysis.

6.5.3 Overall fit of the multiple regression model

Assessing the overall predictive accuracy of the independent variables in relation to the dependent variable was the next step for the multiple regression analysis in the study. Assessing overall fit should accomplish three things: firstly, to select a method for specifying the regression model, secondly, to assess the statistical significance of the model, and thirdly, to determine whether any of the observations exert an influence on the results (Hair *et al.,* 2010:186).

Confirmatory or analyst specification takes place when the researcher specifies the set of independent variables to be included in the regression model. After a review of the literature, six independent variables were chosen in a confirmatory approach by the researcher to be examined further. These six variables were discussed in Chapter 3 of the dissertation.

Following an exploratory factor analysis, five of these independent variables were identified and selected by the researcher as suitable for multiple regression analysis as explained in Section 6.5.

The regression variate met the assumptions of regression analysis and no corrective actions were necessary. The overall fit and results of the regression model were then further analysed. This is discussed in the following section.

Table 29 provides a summary of the final multiple regression model. The value under the heading R Square indicates how much of the variance in the dependent variable is explained by the independent variables (Pallant, 2010:160). The regression model for this research, which includes five independent variables (i.e. trust, marketing Ps, aesthetics, usability and interactivity), explains 52.1% (R Square value of .521) of the variance in the dependent variable, namely online customer satisfaction.

Table 29: Regression model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.722[a]	.521	.515	.851

The adjusted R square value in Table 29 provides a corrected estimation of the population value, especially when smaller sample sizes are involved (Pallant, 2010:160). The sample size in this study was quite large and the difference between the R Square and Adjusted R Square values was only .07, which is a very small difference. Because of the large sample size and small difference between the adjusted and normal R Square values, the normal R Square value of .521 was reported for the study. The overall fit of the model was thus accepted as sufficient.

To assess the statistical significance of the results, the analysis of variance (ANOVA) table was analysed, as depicted in Table 30 below. This tested the null hypothesis that multiple R in the population was 0. As indicated in Table 30, $p < .001$, this means that the model reached statistical significance.

Table 30: Analysis of variance

Model		Sum of squares	df	Mean square	F	*p*-value
1	Regression	291.064	5	58.213	80.429	.000[b]
	Residual	267.074	369	.724		
	Total	558.137	374			

6.5.4 Interpretation and results

The final step in the findings was to evaluate the contribution of the different independent variables. The standard regression output from SPSS provided a table labelled coefficients, which is shown in Table 31.

Table 31: Regression coefficients

Model		Unstandardised coefficients		Standardised coefficients	t	*p*-value
		B	Std. Error	Beta		
1	(Constant)	-.468	.324		-1.445	.149
	F2_Aesthetics	.113	.051	.105	2.209	.028
	F3_Usability	.151	.054	.126	2.822	.005
	F4_Trustworthiness	.443	.061	.350	7.246	.000
	F5_Interactivity	.084	.034	.092	2.427	.016
	F6_Marketing Ps	.327	.045	.299	7.286	.000

The values in the column marked '*p*-value' were checked first. These values indicated whether the unstandardised regression coefficients were statistically significant. If the *p*-value of a regression coefficient was less than .05, that variable had made a statistical significant unique contribution to the explanation of the dependent variable. All variables in the regression model had *p*-values less than .05, as follows:

- Aesthetics: p = .028
- Usability: p = .005
- Trustworthiness: p = .000
- Interactivity: p = .016
- Marketing Ps: p = .000

Unfortunately, because of the possible violation of the assumptions of normally distributed residuals and homoscedasticity mentioned in Section 6.6.2.3, the *p*-values reported above might be inaccurate (Field, 2009:350). Following the recommendations by Field (2009:350), a bootstrap regression analysis was also conducted using the bootstrapping module in SPSS 22 with 5 000 bootstrap samples. According to Field (2009:352), "The main benefit of the bootstrap confidence intervals and significance values is that they do not rely on the assumptions of normality and homoscedasticity, so they give us an accurate estimate of the true value of *b* for each predictor". The results of the bootstrap regression analysis are shown in Table 32.

Table 32: Bootstrap results for regression coefficients

Web experience elements		B	Bootstrap[a]				
			Bias	Std. Error	Sig. (2-tailed)	BCa 95% confidence interval	
						Lower	Upper
1	(Constant)	-.468	.003	.377	.218	-1.214	.287
	F2_Aesthetics	.113	.002	.063	.077	-.013	.244
	F3_Usability	.151	-.003	.065	.022	.031	.273
	F4_Trustworthiness	.443	.003	.087	.000	.283	.624
	F5_Interactivity	.084	-.001	.038	.029	.012	.154
	F6_Marketing Ps	.327	-.002	.056	.000	.224	.426

a. Unless otherwise noted, bootstrap results are based on 5 000 bootstrap samples.

A comparison of the ordinary (i.e. non-bootstrapped) results in Table 31 and the bootstrapped regression results in Table 32 indicated that *aesthetics* was no longer a statistically significant predictor of online customer satisfaction. Because the bootstrapped results do not rely on the assumptions of normally distributed errors and homoscedasticity, they may be more accurate than the non-bootstrapped results.

The values in the column marked 'Sig. (2-tailed)' were checked. These gave a more accurate indication of whether the unstandardised regression coefficients were statistically significant as discussed above. If the value was less than .05, that variable had made a statistical significant unique contribution to the explanation of the dependent variable. The values for each variable are as follows:

- Aesthetics: p = .077
- Usability: p = .022
- Trustworthiness: p = .000
- Interactivity: p = .029
- Marketing Ps: p = .000

After confirmation that four of the five variables in the model made statistically significant contributions to explaining the variance in the dependent variable, the beta values were analysed. The bootstrapped results from SPSS provided a beta value for the variables under the column labelled 'B'. This provided values that had been converted to the same scale, in order for the variables to be compared.

Analysing the 'B' values allowed the researcher to compare the contribution of each independent variable. The contributions are listed in order from strongest contribution to lowest contribution with their relevant beta values as follows:

- Trustworthiness = .443
- Marketing Ps = .327
- Usability = .151
- Aesthetics = .113
- Interactivity = .084

Table 33 displays the original hypotheses as discussed in Chapter 4, and whether or not they were accepted or rejected. A discussion of each hypothesis follows after Table 33.

Table 33: Hypotheses

Wording of the hypothesis	Accepted / Rejected	Reason
H_1: Customers' perceptions of the usability of an online retail website are positively correlated with their satisfaction with the online purchase decision.	Accepted	Statistically significant
H_2: Customers' perceptions of the interactivity of an online retail website are positively correlated with their satisfaction with the online purchase decision.	Accepted	Statistically significant
H_3: Customers' perceptions of the trustworthiness of an online retail website are positively correlated with their satisfaction with the online purchase decision.	Accepted	Statistically significant
H_4: Customers' perceptions of the aesthetics of an online retail website are positively correlated with their satisfaction with the online purchase decision.	Rejected	Statistically not significant
H_5: Customers' perceptions of the quality of the customer service provided by an online retailer are positively correlated with their satisfaction with the online purchase decision.	Not tested	Factor analysis
H_6: Customers' perceptions of the marketing mix elements of an online retail website are positively correlated with their satisfaction with the online purchase decision.	Accepted	Statistically significant

H_1 was accepted. The first hypothesis regarding the usability of an online retail website was accepted. The variable made a statistical significant unique contribution to the explanation of the dependent variable. The contribution ranked third out of five independent variables.

H_2 was accepted. The second hypothesis regarding the interactivity of an online retail website was accepted. The variable made a statistical significant unique contribution to the explanation of the dependent variable. The contribution ranked last out of five independent variables.

H_3 was accepted. The third hypothesis regarding the trustworthiness of an online retail website was accepted. The variable made a statistical significant unique contribution to the explanation of the dependent variable. The contribution ranked first out of five independent variables.

H_4 was rejected. The fourth hypothesis regarding the aesthetics of an online retail website was rejected. The variable did not make a statistical significant unique contribution to the explanation of the dependent variable.

H_5 was not tested. The fifth hypothesis regarding the perceived quality of customer service of an online retail website was not tested The variable did not make any contribution to the explanation of the dependent variable in the study and was removed when conducting factor analysis as explained in Section 6.4 of this chapter. This construct was therefore not included in the regression analysis.

H_6 was accepted. The sixth hypothesis regarding the marketing mix elements of an online retail website was accepted. The variable made a statistical significant unique contribution to the explanation of the dependent variable. The contribution ranked second out of five independent variables.

It is important to note that after an exploratory factor analysis was conducted (see Section 6.4 of this chapter), only two of the four marketing mix-related scale items were retained.

The two scale items that were retained measured pricing and promotions as part of the marketing mix elements. The other two scale items that attempted to measure product and distribution as part of the marketing mix elements were discarded after exploratory factor analysis.

The sixth hypothesis was accepted because two of the marketing mix elements made significant statistical contributions, namely price and promotions, but excluded product and distribution considerations as part of the marketing mix.

Because the original *marketing mix* construct that was conceptualised in Chapter 4, Section 4.3.6 included all four of the marketing mix elements, and as discussed above only price and promotion elements were included in the analysis, the construct tested in H_6 rather only referred to the price and promotional elements of the marketing mix.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

This chapter revisits the main purpose of the current study. The academic importance of the study is highlighted. The empirical findings of the study are summarised and discussed in relation to prior studies. This chapter also reviews the managerial implications of the findings followed by an assessment of the limitations of the study. The chapter concludes with suggestions for future research.

7.2 MAIN PURPOSE OF THE STUDY

The study aimed to investigate the relationship between online customer satisfaction and six online shopping experience elements, namely usability, interactivity, online trust, aesthetics, the marketing mix and online customer service. The study specifically took place in a South African online retail environment.

The study further aimed to develop a multidimensional scale based on relevant literature to measure these constructs.

7.3 IMPORTANCE OF THE STUDY

Customer satisfaction is widely regarded as a very important construct in marketing literature. Conceptually, this study is important because it investigated the possible determinants of customer satisfaction in an online retail setting. It also investigated the relationship between these determinants, also referred to as the web experience elements or online shopping experience elements, and customer satisfaction.

Empirically, this study is important for four reasons. First, it contributes to the body of knowledge on the *online customer satisfaction* construct in a South African context. Second, it contributes to past research on the various elements that make up the online shopping experience. Third, it investigated the relationship between these constructs.

Fourth, it builds on previous research by testing a newly adapted multidimensional scale from past studies to measure the online customer satisfaction construct.

Liu *et al.* (2008:920) stress the importance of online customer satisfaction as a key measure of success in business. Customers differ greatly across countries in the online retail environment, and generalisations could prove to be costly for online businesses. Retailers that wish to enter the online retail environment are faced with a number of challenges, and the development of online customer satisfaction literature in South Africa will allow a better theoretical understanding of this growing market.

The study aimed to gain a better understanding of what contributes to online customer satisfaction in South Africa. The study further discussed the elements of the online shopping experience (i.e. usability, interactivity, online trust, aesthetics, the marketing mix and online customer service) and validated the relationship between some of these elements and the *online customer satisfaction* construct.

Koufaris (2002:218) stresses the importance of future studies to explain the factors behind customer acquisition and purchasing online, which this study attempted in a South African context. Lorenzo *et al.* (2009:12) specifically state the importance of further research with regard to the online shopping experience elements in the South African environment. This study is important because it focused on the South African retail environment.

It is evident from past research that consensus has not been reached on what constitutes the overall online shopping experience. Overlapping constructs in this regard are measured and defined differently by a number of research papers. This incomplete conceptual understanding of the online shopping experience, and the various elements associated with it, justified additional research.

The next section summarises the main findings of the study.

7.4 SUMMARY OF THE FINDINGS OF THE STUDY

The study aimed to test six hypotheses. This section summarises the findings of the study with reference to these six hypotheses.

Before the stated hypotheses could be tested, the data was subject to exploratory factor analysis to review the interrelationship between the sets of variables (see Chapter 6, Section 6.3). Based on the results of the exploratory factor analysis, one of the dependent variables, namely online customer satisfaction, was discarded from the study. Customer service as a web experience factor proved, according to the factor analysis techniques discussed in Chapter 6, Section 6.3.3, to be too strongly correlated with the other online shopping experience elements in the data set. The items measuring the online customer service construct did not have convergent and discriminant validity. The hypothesis related to online customer service (H_5) was, therefore, not tested.

The remaining five hypotheses (H_1, H_2, H_3, H_4, H_6) were tested using multiple regression analysis. The results of the multiple regression model are summarised in Table 34.

Table 34: The results of the five tested hypotheses through multiple regression analysis

Wording of the hypothesis	**Accepted / Rejected**
H_1: Customers' perceptions of the usability of an online retail website are positively correlated with their satisfaction with the purchase decision.	Accepted
H_2: Customers' perceptions of the interactivity of an online retail website are positively correlated with their satisfaction with the purchase decision.	Accepted
H_3: Customers' perceptions of the trustworthiness of an online retail website are positively correlated with their satisfaction with the purchase decision.	Accepted
H_4: Customers' perceptions of the aesthetics of an online retail website are positively correlated with their satisfaction with the purchase decision.	Rejected
H_6: Customers' perceptions of the marketing mix elements of an online retail website are positively correlated with their satisfaction with the purchase decision.	Accepted

According to the results, four of the remaining five online shopping experience elements (independent variables), namely usability, interactivity, trustworthiness and marketing mix indicated a positive correlation with online customer satisfaction (dependent variable).

Aesthetics was not a statistically significant predictor of online customer satisfaction in the context of the specific regression model tested in the study.

Online trust had the strongest positive relationship with online customer satisfaction followed by the marketing mix elements (with specific reference to the price and promotion elements of the marketing mix).

The fact that online trust had the strongest positive correlation with online customer satisfaction in a South African context was expected. South Africa is an emerging market, where the users of online retailers represent only a very small percentage of the population. In an environment where more first-time and inexperienced users of online retailers exist, one may make the assumption that trustworthiness of the online retailer plays a big part in the online shopping experience as well as online customer satisfaction which is evident from marketing literature (Liu *et al.,* 2008:929) and also the current study.

This view is supported by Liu *et al.* (2008), whose study focused on online shopping satisfaction in China, a much more advanced and experienced online retailing environment. Liu *et al.* (2008) found that transaction capability and delivery had the strongest influence on online shopping satisfaction, followed by other elements such as security (trust), customer service, information quality and product. Aesthetics was found to have the least practical significance to online satisfaction.

The finding that aesthetics did not have a significantly positive relationship with online customer satisfaction was somewhat surprising. Aesthetics was found to have the *least* practical significance to online satisfaction in certain studies, but was still a statistically significant predictor of satisfaction (Lorenzo *et al.,* 2009; Liu *et al.,* 2008). Other studies view the aesthetics of a website as a crucial part of usability, or ease of use, as opposed to being fundamental element of the online shopping experience (Kalyanam & McIntyre, 2002; Kotha *et al.,* 2004).

7.5 MANAGERIAL IMPLICATIONS OF THE STUDY

This section highlights the managerial implications of the findings of the study. The better companies understand the determinants of online customer satisfaction, the better they can present their retail websites to their specific consumers. Customer satisfaction is linked to customer loyalty, repurchase intention and an organisation's competitive advantage. This is an especially important consideration in an online environment where a host of alternative retailers are very easy to access at the click of a button. Customers who are not satisfied will lead to a loss of income and market share (Chang *et al.,* 2009:440).

The managerial importance of online customer satisfaction in South Africa is further emphasised by Mostert (2002:5), who states that there is a shift in shopping activity in South Africa from the traditional brick-and-mortar shops to the online retail environment. Mostert (2002:2) highlights the need for retailers to start differentiating between online and traditional retail shoppers. Despite a lack of Internet penetration in the country, online retail firms need to take heed of the rapid growth of the South African market as a possible business opportunity (Business Monitor International, 2011; Mostert, 2002).

The positive relationships between the online experience elements and online customers' satisfaction in the South African e-commerce environment will give retailers insight into and knowledge of the country's online consumer. This will enhance the ability of online retailers to design and develop a more successful web offering in order to achieve organisational goals.

Online retail firms in South Africa should enhance the perception of the trustworthiness of their website in the first instance through security certificates and secure payment facilities. The perception may be further enhanced by simply ensuring that the secure nature of the website is communicated clearly and consistently with the consumers on the site.

7.6 LIMITATIONS OF THE STUDY

The limitations of the study are discussed in the following section.

Non-probability convenience and snowball sampling approaches were used to gather data using Internet-mediated questionnaires. Non-probability sampling is considered to negatively influence the generalisability of the findings. Moreover, the convenience and snowball methods are considered to be the simplest forms of non-probability sampling (Cooper & Schindler, 2011:423).

During the first stage of the sampling process, the sample was limited to friends and colleagues of the researcher. These respondents were asked to invite their social circles to also participate. During the second stage, after Consulta Research agreed to help the researcher gather data for the sample (see Chapter 5, Section 5.3), the sample was still limited to the database of that specific research company and was not available to the entire population of South African online consumers. The results of the study should therefore be generalised with caution.

The study was limited to six possible determinants of online customer satisfaction (forming part of the online shopping experience) and acknowledged that other factors might be associated with an online shopping experience. Other factors could include but are not limited to the following:

- website quality, website personality (Poddar *et al*., 2009:441);
- connection speed (Mostert, 2002:4);
- environment, benefits, convenience, accessibility, utility (Kim *et al.,* 2011:122);
- perceived value (Kim & Gupta, 2009:480).

In addition, only five hypotheses were tested due to the construct *online customer service* being removed as a determinant after exploratory factor analysis (see Chapter 6, Section 6.3.3).

The *interactivity* construct did not meet the minimum proposed reliability requirements in terms of Cronbach's alpha >.70 but was still included in the study. This is also viewed as a limitation (see Chapter 6, Section 6.4.5).

A number of respondents indicated that they shopped from web sites that did perhaps not provide the necessary experience to evaluate all items in the questionnaire. The differences in these web sites and their product offering in terms of all questionnaire items are seen as a limitation to the study.

The study was concerned with the relationship between customer satisfaction with actual purchases made and web experience factors, and did not examine other online activities such as information searches, product comparisons and after-sales actions.

7.7 RECOMMENDATIONS FOR FUTURE RESEARCH

In the context of online retail, different elements make up a comprehensive shopping experience. The *online shopping experience* is a complex multidimensional construct made up of these various interrelated elements. It is therefore recommended that future research concentrates on further conceptualising the shopping experience elements.

The results of the exploratory factor analysis in Chapter 6 of the study highlighted the fact that the shopping experience elements were closely interrelated with one another. This close interrelationship between factors posed challenges in reliability assessments and factor identification. The study specifically identified *online customer service* as a problematic construct. It is therefore suggested that future researchers should focus on what exactly constitutes *online customer service* and how this construct fits in with the online shopping experience.

In addition, future researchers should also develop better (i.e. more reliable and valid) measures of the constructs *interactivity* and *online customer service* for inclusion in future studies. The regression model can also be tested using more advanced analytical approaches such as confirmatory factor analysis and structural equation modelling.

The hypothesis regarding the marketing mix proved to be statistically significant, but only the price and promotion elements were analysed in the study. This revised construct did, however, prove to be the second strongest predictor of online customer satisfaction. Future researchers could develop multiple-item measures for each of the marketing mix elements and then include each of these elements as a separate predictor in a regression model. This will allow an improved understanding of the relationship between the marketing mix and online customer satisfaction.

In a South African context, future research into online retail is recommended due to the rapid growth of the online retail market. As Internet penetration in South Africa increases, more individuals are exposed to the opportunity to shop online. The environment is in a rapid growth stage and the determinants of online shopping satisfaction could therefore change as the environment changes. The study focused on online shopping in general, and it may be advisable for future researchers to focus on customers of a specific online retailer (i.e. to have a single contextual focus).

As highlighted in Chapter 6 of the study, *online trust* indicated the strongest positive relationship with online customer satisfaction. The *trust* determinant was also one of the highest-scoring online shopping experience elements in previous studies pertaining to online shopping satisfaction and repurchase intent. Therefore, it is recommended that this construct should be further investigated; firstly, to fully understand the impact this determinant has in relation to online shopping satisfaction, secondly, to review whether the impact becomes less or more important as the South African online shopping environment grows and matures.

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APPENDIX A

- Original measurement scales and questionnaires from previous studies -

Usability
Convenient to buy products (q1)
Navigation is simple (q2)
Information easily accessible (q3)
Ordering process is simple (q4)
Good internal search facilities (q5)
Pages are loading very fast (q6)
Little search effort (q7)
Interactivity
Excellent customer service (q8)
Shop's staff is easy (q9)
Excellent search customisation (q10)
Other customers' experiences (q11)
Trust
Safety of online transactions (q12)
Protection of customers' personal data (q13)
Guarantees against misuse of personal data for commercial purposes (q14)
Logos of organisations that guarantee secure online shopping (q15)
Transparent guarantee policy (q16)
Aesthetics
Site's design is superb (q17)
High site's presentation quality (q18)
Site's design is unique, innovative elements (q19)
Good online shop's atmosphere (q20)
Marketing mix
Communication with customer in a professional way (q21)
Wide and deep product assortment (q22)
Very reliable fulfilment process (q23)
Very competitive prices (q24)
Very attractive promotions (q25)

Adapted from Lorenzo *et al.* (2009:7-8)

Construct	Question item
Customer service	Customer service personnel are always willing to help you
	Inquiries are answered promptly
	The company is ready and willing to respond to customer needs
Website design	**Website structure**
	I like the layout of the website
	Navigation
	The start page leads me easily to the information I need
	The start page tells me immediately where I can find the information I am looking for
	I found it easy to move around this website
	The website and all of its linked pages work well
	Colour combination
	This website uses good colour combinations
	I like the colour combination of this website
	Ease of use
	I feel happy when I use this website
	The website is easy to use
	The website is user friendly
Transaction capability	Most business processes can be completed via the website
	All my business with the company can be completed via the website
Response time	The website loads quickly
	When I use the website, there is very little waiting time between my actions and the website's response
Security/privacy	I feel secure giving out credit card information at this site
	The website has adequate security features
	I feel I can trust this website
	I feel safe in my transactions with this website
Delivery	The product is delivered by the time promised by the company
	You get what you ordered from this site
	The items sent by the site are well packaged and perfectly sound
	I am satisfied by the delivery mode of the website
Merchandise attributes	**Price level**
	The general pricing of the website's goods is generally low
	This website has a bigger offering of lucky draw and discounts than similar websites
	Merchandise variety
	The product range of this website is complete
	The products of other similar websites can be found at this site
	Most of the goods I need can be found at this site
	There are more choices for goods of a particular type at this site
Payment	This website has complete payment options
	I accept the payment options provided by the website
Satisfaction	If I had to do it over again, I'd make my most recent online purchase at this website
	My choice to purchase from this website was a wise one
	I have truly enjoyed purchasing from this website
	I am satisfied with my most recent decision to purchase from this website

Adapted from Liu *et al.* (2008:938-939)

Appendix: Measurement scales constructs and scale items	Source
Perceived eSDS process	
eSDS1. The website was difficult to navigate through.	New item
eSDS2. The number of choices at each step of the process doesn't need to be changed.	New item
eSDS3. The website ordering process wasn't complicated.	New item
eSDS4. I did not experience any errors (e.g. web pages that did not load the first time).	Adapted from Roth and Jackson (1995)
eSDS5. I had trouble finding what I was looking for on the website.	New item
eSDS6. The entire process of searching and buying took a reasonable amount of time.	New item
Service value	
VAL1. Using the website was a waste of my time.	New item
VAL2. The service provided through the website was very efficient.	New item
VAL3. The website required a lot of effort to use.	New item
VAL4. I was treated fairly.	New item
VAL5. Very little thought was required to use this website.	New item
VAL6. The website doesn't provide value.	Brady and Cronin (2001)
Perceived ease of use	
EOU1. The user of the website has to be skillful to use the website.	Davis (1989)
EOU2. The user does not have to be knowledgeable in order to use the site.	New item
EOU3. Using this website was easy.	Davis (1989)
EOU4. The user needs to be a frequent web user.	New item
EOU5. My interaction with the website was clear and understandable.	Davis (1989)
EOU6. A user does not need specific knowledge about the company in order to use the website.	New item
Perceived control	
PC1. The website limited what I could do.	Adapted from Seyal et al. (2002)
PC2. I felt in control at each step and could determine the outcome of the online process.	Koufaris (2002)
PC3. To use the website, I had to input unnecessary information, which was confusing.	Koufaris (2002)
PC4. I felt frustrated at the process of searching and buying.	Koufaris (2002)
PC5. At the website, I could do what I wanted to when I wanted to.	Adapted from Seyal et al.

Adapted from Ba and Johansson (2008:37-38)

The System Usability Scale
1. I think that I would like to use this website frequently.
2. I found the website unnecessarily complex.
3. I thought the website was easy to use.
4. I think that I would need the support of a technical person to be able to use this website.
5. I found the various functions in this website were well integrated.
6. I thought there was too much inconsistency in this website.
7. I would imagine that most people would learn to use this website very quickly.
8. I found the website very cumbersome to use.
9. I felt very confident using the website.
10. I needed to learn a lot of things before I could get going with this website.

Adapted from Tullis and Stetson (2004:8)

Computer Usability Satisfaction Questionnaire
1. Overall, I am satisfied with how easy it is to use this system.
2. It is simple to use this system.
3. I can effectively complete my work using this system.
4. I am able to complete my work quickly using this system.
5. I am able to efficiently complete my work using this system.
6. I feel comfortable using this system.
7. It was easy to learn to use this system.
8. I believe I became productive quickly using this system.
9. The system gives error messages that clearly tell me how to fix problems.
10. Whenever I make a mistake using the system, I recover easily and quickly.
11. The information (such as online help, on-screen messages and other documentation) provided with this system is clear.
12. It is easy to find the information I need.
13. The information provided with the system is easy to understand.
14. The information is effective in helping me complete my work.
15. The organisation of information on the system screens is clear.
16. The interface of this system is pleasant.
17. I like using the interface of this system.
18. This system has all the functions and capabilities I expect it to have.
19. Overall, I am satisfied with this system.

Adapted from Tullis and Stetson (2004:8)

Online trust
The website of this web retailer is trustworthy and honest.
The website of this web retailer wants to keep promises and obligations.
The information provided by the web retailer is plentiful and of sufficient quality.
The infrastructure of the website of this web retailer is dependable.
The website of this web retailer offers secure personal privacy.
The website of this web retailer keeps my best interests in mind.
Compared with what other websites offered, the website of this web retailer is secure and reliable.
The website of this web retailer would not behave opportunistically (e.g. gaining money illegally).
The performance of the website of this web retailer fulfils my expectation.

Adapted from Ling *et al.* (2010: 75)

Scale items
(1) The contents in the website were concise and easy to understand.
(2) The products/services featured in the website caught my attention.
(3) The cyberspace address was easy to remember.
(4) All the terms and conditions (e.g. payment, warranty, return policies) were easy to read/understand.
(5) The organisation and structure of online catalogues were logical and easy to follow.
(6) The website design of the Internet retailer was aesthetically attractive.
(7) When the Internet retailer promised to e-mail or call me by a certain time, it did so.
(8) The quantity and quality of the product/service I received was exactly the same as that I ordered.
(9) The product/service I ordered was delivered to me within the time promised by the Internet retailer.
(10) The billing process was accurately handled and its records were kept accurately.
(11) The Internet retailer responded to my inquiry promptly.
(12) The system of the website rapidly retrieved the information I requested.
(13) I didn't encounter online jam in searching for information or placing an order.
(14) For more information, I could turn to the Internet retailer's chat rooms, bulletin boards, or others.
(15) The Internet retailer offered multiple ordering options such as phone or mail options.
(16) I saved much time in searching for product information or through online purchase.
(17) The "Frequently Asked Questions" web page addressed most of my online shopping questions.
(18) The Website showed its street and e-mail addresses, and phone and fax numbers.
(19) The Website showed how long the Internet retailer has been in this online business.
(20) I could trust the Internet retailer.
(21) I felt secure in providing sensitive information (e.g. credit-card number) for online purchase.
(22) I felt the risk associated with online purchase was low.
(23) It was easy to access the Internet retailer since it had many referral banners in other websites.
(24) Desired products/services were easily found using a keyword search option in the website.
(25) The searching mechanisms of the website were user friendly.
(26) The website had a message area for customer questions and comments.
(27) The Internet retailer gave me a personalised or individualised attention.
(28) If I want to, I could easily contact a customer service representative over the phone.
(29) The website offered a variety of language options.
(30) The online catalogues containing information about price, model, and others were updated quickly.
(31) The wide selection of products/services offered by the Internet retailer met my needs.
(32) The product/service I purchased from the Internet retailer was a good buy.
(33) Overall, the service quality of the Internet retailer was excellent.

Adapted from Cai and Jun (2003:519)

APPENDIX B

-Original Questionnaire-

- Online experience and satisfaction survey -

Dear respondent

Thank you for your willingness to complete the online experience and satisfaction survey. The purpose of the survey is to determine your perceptions about an online shopping experience and your satisfaction with a completed online purchase. The survey should not take more than 15 minutes to complete. This is an anonymous and confidential survey. You cannot be identified and the answers you provide will be used for research purposes only.

Please answer the following three questions before completing the survey questionnaire:

Are you a South African citizen?

- Yes
- No

Do you currently live in South Africa?

- Yes
- No

If you answer 'No' to the following question, you will not be able to continue with this survey. If you answer 'Yes', please continue with the survey below.

Have you made an online purchase in the last three months?

- Yes
- No

With regard to your last online retail purchase, at which online vendor (i.e., online store) did you complete that online purchase? Please write down the name of the last online vendor that you made a purchase from.

Please answer all the questions. There are no right or wrong answers. We are interested in understanding your online shopping experience and your satisfaction with your purchase from the online vendor.

People experience a number of different elements when shopping online. A number of statements describing different experiences regarding the usability (or ease of use) of an online shop appear below. Please read each statement carefully and then indicate the extent to which you agree or disagree with how that statement describes what you generally experienced regarding the usability of the website, when you last made a retail purchase online.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I thought the website was easy to use.							
I found the website very cumbersome to use.							
I felt very confident using the website.							
I think I would need assistance to be able to use this website.							

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I was highly satisfied with the hyper-links on the website.	○	○	○	○	○	○	○
I found the website confusing and overwhelming.	○	○	○	○	○	○	○
I was content with the information displayed on the website.	○	○	○	○	○	○	○

Please indicate the extent to which you agree or disagree with how these statements describe what you generally experienced regarding the interactivity of the website, when you last made a retail purchase online.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I found the search function on the website to be available.	○	○	○	○	○	○	○
I felt could easily make contact with a staff member of the online retailer of I had to.	○	○	○	○	○	○	○
I was always aware of where I was, and where I was going on the website.	○	○	○	○	○	○	○
I was confident in exploring the site and using hyper-linked functions.	○	○	○	○	○	○	○
I felt unable to express any feelings and/or opinions to the online retailer.	○	○	○	○	○	○	○
I think the website was delayed and slow to respond to any of my actions.	○	○	○	○	○	○	○

Please indicate the extent to which you agree or disagree with how these statements describe what you generally experienced regarding the trustworthiness of the website, when you last made a retail purchase online.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I felt my personal privacy was respected on the website.	○	○	○	○	○	○	○
I was comfortable with the reputation of the online retailer.	○	○	○	○	○	○	○
I found the website unreliable.	○	○	○	○	○	○	○
I was uncertain that the online retailer would keep its promises and obligations.	○	○	○	○	○	○	○
I think the retailer is trustworthy and honest.	○	○	○	○	○	○	○

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I felt that the website was unsecure.	○	○	○	○	○	○	○

Please indicate the extent to which you agree or disagree with how these statements describe what you generally experienced regarding the aesthetics (look and feel) of the website, when you last made a retail purchase online.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I felt the graphic detail on the website was of outstanding quality.	○	○	○	○	○	○	○
I was unhappy with the atmosphere created by the website.	○	○	○	○	○	○	○
I found the design of the website to be superb.	○	○	○	○	○	○	○
I thought the design of the website was innovative and modern.	○	○	○	○	○	○	○
I thought the site was very unattractive and unappealing to my senses.	○	○	○	○	○	○	○
I thought there could be more multimedia elements such as music, graphics and videos incorporated into the website design.	○	○	○	○	○	○	○

Please indicate the extent to which you agree or disagree with how these statements describe what you generally experienced regarding the customer service of the website, when you last made a retail purchase online.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I felt the website guided me throughout the buying process effectively.	○	○	○	○	○	○	○
I found the purchasing, paying and ordering process to be very complicated and time consuming.	○	○	○	○	○	○	○
I found reviews by other customers regarding their buying experience were readily available.	○	○	○	○	○	○	○
I was happy with all communications from the online retailer to me and the timing of the communications.	○	○	○	○	○	○	○
I think the online retailer was unable to exceed my expectations.	○	○	○	○	○	○	○

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I found the retailer made a lot of mistakes throughout the process.	○	○	○	○	○	○	○

Please indicate the extent to which you agree or disagree with how these statements describe what you generally experienced regarding the marketing elements of the website, when you last made a retail purchase online.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I was satisfied with the product range offered by the website.	○	○	○	○	○	○	○
I found the pricing of the online retailer to be competitive.	○	○	○	○	○	○	○
I felt the promotions offered by the online retailer to be attractive.	○	○	○	○	○	○	○
I think the distribution and fulfilment process was reliable and happened in a timely manner.	○	○	○	○	○	○	○

Please indicate the extent to which you agree or disagree with how these statements describe your overall satisfaction with the last online purchase you have completed.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
If I had to do it over again, I would repeat my most recent online purchase on this website.	○	○	○	○	○	○	○
I felt my choice to purchase from this website was a wise one.	○	○	○	○	○	○	○
I have truly enjoyed purchasing from this website.	○	○	○	○	○	○	○
I am satisfied with my most recent decision to purchase from this website.	○	○	○	○	○	○	○
I feel that the online retailer satisfied my needs as a customer.	○	○	○	○	○	○	○

Please indicate how many online retail purchases you have made in the past three months.

Please indicate your gender.

○ Male

○ Female

Please indicate your home language.

- English
- Afrikaans
- Zulu
- Sotho
- Xhosa
- Tsonga
- Venda
- Other

Please indicate your age in years.

Please indicate the province where you currently reside.

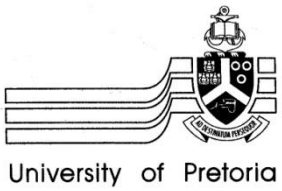
- Gauteng
- KwaZulu-Natal
- Western Cape
- Free State
- Mpumalanga
- Limpopo
- Northern Cape
- Eastern Cape
- North West

APPENDIX C

- E-mail cover letter -

Subject: Invitation to participate in a survey conducted by the University of Pretoria

Message:



Dear respondent

You are invited to participate in an academic research study conducted by Dawid Botha, a master's student from the Department of Marketing and Communication Management at the University of Pretoria.

The purpose of the study is to examine the relationship between specific web experience factors (i.e. usability, trust building, marketing mix, aesthetics, interactivity and customer service quality) and customers' satisfaction with online purchases in the South African online retail environment.

Please note the following:

This study involves an anonymous survey in the form of a questionnaire. Your name will not appear on the questionnaire and the answers you give will be treated as strictly confidential. You cannot be identified in person based on the answers you give.

Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.

Please answer the questions in the attached questionnaire as completely and honestly as possible. This should not take more than 30 minutes of your time.

Please remember to save your responses once you have completed the questionnaire.

The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Please contact my supervisor, Mr. T.G. Kotzé, at theuns.kotze@up.ac.za or on 012 420 4844 if you have any questions or comments regarding the study.

Should you choose to continue with this survey, it will indicate that:

- you have read and understand the information provided above;
- you give your consent to participate in the study on a voluntary basis.

Sincerely,

Dawid Botha
Cell: 084 777 0945