

**AN INVESTIGATION INTO CORPORATE WEB SITE DESIGN  
OF LEADING CONSUMER BRAND MARKETERS IN  
SOUTH AFRICA**

**by**

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## DEDICATION

*“As water reflects a face,  
so a man’s heart reflects the man”*

Proverbs 27:19

This study is lovingly dedicated to my husband and companion *Martin* who has inspired me in innumerable ways with his kind and gentle spirit.

098030

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***“...let us throw off everything that hinders and the sin that so easily entangles, and  
let us run with perseverance the race marked out for us”***

Hebrews 12:1

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## ABSTRACT

Presently in South Africa, a large number of companies are developing an online presence. For established companies whose brands are already well entrenched in the minds of their consumers, the challenge lies in developing an online site that matches the expectations that consumers have come to rely on from that brand. It is interesting to analyse whether or not top companies employ similar web site design criteria as compared to the runner-up companies.

This investigative study researches the application of web site design criteria by 102 leading consumer brand manufacturers in South Africa. Thirty-four objective, marketing-related site design sub-criteria were chosen and subsequently organised into 9 broad categories. These 102 leading manufacturers' sites were separated into leader sites (n=53) and runner-up sites (n=49), with the aim of identifying criteria (if any) that are specifically applied by leader sites as compared to runner-up sites.

A quantitative approach was applied in this study. These web sites were checked for the application of each criterion and sub-criterion using content analysis, the results of which were recorded on a data sheet. The generated data was analysed using statistical software and specifically the statistical techniques of t-testing, cluster and discriminant analysis. The cluster analysis showed no difference in the application of web design criteria by leader and runner-up sites. However, the t-test revealed that the navigation and customer support criteria showed the most significant difference in its application between leader and runner-up sites. Discriminant analysis confirmed that navigation and customer support criteria were the most discriminating criteria, and also identified a third criterion of advertising/promotion/publicity.

Additional research was undertaken to determine to what extent these three discriminating criteria were actually applied. This involved analysing the mean differences between the 'top 10 vs bottom 10' sites and 'top 30 vs bottom 30' sites. This additional effort further confirmed what was previously determined, that navigation, customer support and advertising/promotion/publicity are the three criteria which demonstrate a significant difference between leader and runner-up sites. This

implies that most of the web sites of the top consumer brand manufacturers in South Africa clearly demonstrate application of these three criteria in the web design strategy.

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# **CHAPTER ONE: INTRODUCTION**

## **1.1 BACKGROUND TO THE STUDY:**

The Internet has not turned out to be what was expected. “The painful truth is that the Internet has been a letdown for most companies – largely because the dominant model for Internet commerce, the destination website, doesn’t suit the needs of those companies or their customers.” (Kenny & Marshall 2001) However, with the Internet becoming a standard channel of marketing, companies have no choice but to address the question of how to design an effective web site. Thus arises the need to assess key dimensions associated with web site design quality.

Kenny and Marshall (2001) suggest that instead of trying to create destinations that people will come to, companies need to use the power and reach of the Internet to deliver tailored messages and information to customers. Such information will encourage repeat visits, and the disclosure of the detailed information that makes such sites profitable.

This loyalty effect can initiate a spiral of economic advantages, by enabling such companies to compensate their employees more generously, providing investors with superior cash flow, and reinvesting more aggressively to further enhance the value delivered to customers (Reichheld & Schefter 2001).

Just as with a physical store, the dialogue with the shopper/browser begins at its entrance and continues throughout the physical store. So too does the dialogue with an e-shopper/e-browser begin at the home page of a company/brand web site and continue through all its pages and links. Thus the web site sets the agenda for the browser/shopper and forms an integral part of the site image. It is an intangible browsing and/or shopping instrument, which must have the ability to grab the attention of the passerby.

Thus the importance of site design cannot be underestimated online. For this reason, this study will consider web site design as a vital ingredient to the success of a company/brand that has an online presence.

## **1.2 OBJECTIVES AND MOTIVATION FOR THE RESEARCH**

The key dimensions of the sites of the top consumer brands in South Africa are determined using the results of the 2002 Markinor Top Brands Survey (Sunday Times 2002) in South Africa as a base. This study initially develops a set of market-related site criteria from a variety of theoretical sources. From these criteria only, the objective criteria are used and form the basis for the research instrument. These web sites are then analysed according to the developed list of criteria.

This study does not assume that a company requires an excellently designed site to have a top brand. Rather, it is based on the assumption that top brands have sites that may or may not have certain essential criteria for web page design.

Specifically, the aims of this research are:

- To identify whether the same criteria have or have not been applied by the leader brands identified in the survey as opposed to the runner-up brands in the design of their web sites.
- To identify distinguishing criteria applied by the leader sites as opposed to the runner-up sites.
- To verify the theory of excellent web design against practice.

For the purposes of this research, the first 53 out of 102 web sites will be labelled the “leader” sites and the remaining 49 sites will be called the “runner-up” sites. Further details will be provided in Chapter 4 on Research Methodology.

Research indicates that a vast number of criteria constitute site design. This research will focus on only the marketing-related dimensions of a web site’s design namely functionality, navigation, design, content, professionalism and interactive functions, together with their sub-dimensions. These dimensions will, for the purposes of this research, be defined as follows:

- Functionality refers to the basic functional nature of the site, with regard to efficient downloading, visibility, working HTML, and so on.
- Navigation includes tools and facilities that ease site navigation and search.
- Design is the use and level of print, audio and other media used on the web site.
- Content refers to the ability of the web site to convey relevant material to the user to ensure that s/he is fully informed at all times.

- Professionalism allows a user to browse a site freely without any unwanted obstacles and with the option of a help facility.
- Interactivity involves tools, functions and features of a site that allow users to adapt the content of the site in real time. It also assists users in interacting with the company or others users. In this study, interactivity has further been broken down into four main criteria of customer support, marketing research, personal-choice helper and advertising/promotion/publicity.

This research will provide an in depth analysis of why site design is so important to an organisation with an online presence. Organisations with an online presence have to constantly strive to not only retain existing customers but also to attract new ones and hence this study specifically addresses the market-related dimensions of web site design.

### **1.3 HYPOTHESES TESTING**

**Hypothesis 1:** There is no relationship between site design theory and the sites of leader brands in practice.

**Hypothesis 2:** Both the leader and runner-up web sites encompass common criteria.

**Hypothesis 3:** The leader sites implement a higher percentage of the critical design variables than the runner-up sites.

## **1.4 CHAPTER OUTLINE**

**Chapter 1 – Introduction:** This chapter introduces the reader to the background of the study, objectives, motivations and aims.

**Chapter 2 – The Online Influence of Key Marketing Approaches:** This chapter explains the basics of the World Wide Web and focuses on three marketing approaches (segmentation, targeting and positioning; relationship marketing; and integrated marketing communications) and the role they play in the online corporate world.

**Chapter 3 – An Introduction to Web Site Design and the Dimensions Involved:** A short introduction to the concept of web site design is followed by a detailed discussion on the relevant literature surrounding the dimensions involved in the design of a web site. Specifically, the functionality, navigation, content, design, professionalism and interactivity dimensions are analysed.

**Chapter 4 – Research Methodology:** Apart from discussing the methods used to conduct the study, sample size and technique used, detailed information on the measurement instrument and its construction is provided. In addition, the methods and techniques of data collection and analysis are also covered.

**Chapter 5 – Research Findings:** Here, the results of the statistical analysis of data are presented. The data is interpreted and the results are graphically displayed. T-tests,

cluster and discriminant analysis have also been attempted, the results of which are discussed in this chapter.

**Chapter 6 – Research Conclusions and Recommendations:** In this chapter research conclusions are drawn based on the findings of the study. Suggestions for future research in this area are also made.



## **CHAPTER TWO**

# **THE ONLINE INFLUENCE OF SOME KEY MARKETING APPROACHES**

### **2.1 INTRODUCTION TO THE WORLD WIDE WEB**

The Web is one of the most revolutionary technologies that has changed the business environment and has had a dramatic impact on the future of electronic commerce. The future of electronic commerce has accelerated the shift of the power toward the consumer, which will lead to fundamental changes in the way companies relate to their customers and compete with one another (Slywotzky 2000).

The World Wide Web is the most common technique for publishing information on the Internet. It is accessed through web browsers, which display web pages of embedded graphics and HTML/XML encoded text. A collection of related web pages are usually referred to as a web site (Chaffey *et al* 2000).

A web site is a key source of online corporate information and promotion, but many firms have launched them without assessing the importance of a web site to their wider business plans, or without thinking through the design issues properly. With corporate

companies and retailers rushing to gain a presence on the Net, sites that do not satisfy consumers or add consumer value will surely face extinction.

The web pages of a site are made up of information, graphics and interactive elements, commonly referred to as content. The overall design of a site creates the first impression for visitors, and determines whether that visitor will return to the site in future. Competition is just a click away if the first impression is not a good one, and luring customers back to a web site is far more difficult and costly than acquiring those customers in the first place (Keh and Shieh 2001).

Thus design plays a pivotal role in gaining and holding consumers' attention, either luring them in to the site or driving them away. Capturing audience attention is an increasingly important step in the persuasion process (Geissler 2001). Useful or enjoyable content will generate favourable reviews and word of mouth recommendations that are valuable in site promotion (Chaffey *et al* 2000). Thus apart from a good interface, navigational elements and graphics, a site must be one worth recommending to others (Gutzman 2001).

## **2.2 SEGMENTATION, TARGETING AND POSITIONING**

Segmentation, targeting and positioning provides a sound basis for developing effective web communications. A target segment is a subgroup of the larger market chosen as the focal point for the marketing programme. Designing the company's offering and image

to occupy a distinctive place in the mind of the target market is the core of a positioning strategy (Kotler 2003).

The segmenting, targeting and positioning strategies employed are very critical in the design of a web site. To be effective, the site must be designed with the consumer in mind. Site designers must balance design considerations and capabilities with customer needs, interests, knowledge, background and their varying technological sophistication levels. Site designs must also be tested to obtain feedback from users to determine their level of effectiveness in providing users with what they want from the site.

“Many designers feel that much consumer behaviour on the web is goal-directed.” (Geissler 2001) This means that consumers are actively looking for information about specific product and service offerings. Therefore knowing your customer and developing customer profiles is imperative in effective web site design. Geissler (2001) goes on further and stresses that as with other communications media, marketers should target online customer segments and not try to accommodate everyone. The central message or selling proposition of the organisation must be clearly communicated, and it should be consistent with other media, as part of an integrated marketing communications program.

### **2.3 RELATIONSHIP MARKETING**

Geissler's research (2001) confirms that interactivity is a unique characteristic of the web environment that can be used to initiate and facilitate customer relations. According to

Duncan and Moriarty (1998), as the focus shifts to interactive relationships, both brand value and customer retention increase.

Geissler (2001) argues that gathering customer information is the most important step in initiating and maintaining relationships online, and the costs associated with providing incentives to customers to complete a personal information form are more than offset by the long-term profit potential typical of strong customer relationships. Interactivity can involve establishing a customer database, encouraging feedback, answering questions, reassuring customers and inspiring trust in the information provided.

Companies can gather personal information (e-mail addresses, residential addresses, telephone numbers) to establish and maintain contact with their online users. However, current and potential customers should not be loaded with too many contacts. For this reason, permission-based marketing is a tactic that has gained increasing popularity, and involves obtaining customer permission prior to sending information and updates via any of the contact details collected.

Thus, as Geissler (2001) concludes, establishing and maintaining customer relationships should be the overriding objective of online marketing efforts, since the web lends itself to a new level of interactivity and intimacy with customers that can form the basis for solid, long-lasting relationships.

## **2.4 INTEGRATED MARKETING COMMUNICATIONS**

Integrated marketing communications (IMC) involves coordinating distinct parts of a company's communication efforts to provide a clear, consistent message and maximum communications impact. The interactive media option provided online represents a new communications option. Thus there is a need to coordinate messages delivered via the web and other media. Geissler (2001) emphasises that provided the messages delivered via the web are tied to those delivered by other media, customer confusion will be eliminated and brand associations will be strengthened. Executional consistency among all marketing communication messages is necessary to build trust in relationships (Duncan & Moriarty 1998).

In conclusion, Geissler (2001) writes that most web sites realise their full marketing potential when they are viewed as part of an integrated marketing communications program designed to facilitate long-term relationships with target consumers.

# **CHAPTER THREE**

## **AN INTRODUCTION TO WEB SITE DESIGN AND THE DIMENSIONS INVOLVED**

### **3.1 INTRODUCTION**

According to Chaffey *et al* (2000), web site design involves analysing the needs of current and potential users of the site and then deciding on the best way to build the site to fulfil their needs. It also defines how the site will work in terms of layout, structure, navigation, and so on. High quality content must be achieved through design.

One of the aims of an online presence is to ensure that the user is encouraged to revisit the site at a future date. Revisits can be encouraged in a number of ways, for example, by offering valuable information on the website, by changing some of the content frequently so that something is always new, by offering personalised services, and by providing unique events, such as contests (Ellsworth & Ellsworth 1997). Other researchers suggest that high-quality content, ease of use, quick downloading and frequent updates are all determinants of customers' intentions to revisit a site (Chaffey *et al* 2000).

It is thus logical to investigate whether top corporations with online offerings do in fact apply these criteria on their sites. Consequently, this paper examines the extent to which

the marketing-related dimensions of site design are practiced in the corporate world by owners of leading brands in South Africa.

### **3.2 THE DIMENSIONS OF WEB SITE DESIGN**

As discussed there are a number of interacting elements that together create a web site's design. These elements are of paramount importance to the success of an organisation's online efforts. Ideally, a web site must attract a consumer, keep him/her logged on and continue investigating the site. Zemke and Connellan (2001) suggest that distinctive design is only partly about building an eye-appealing web site, more importantly, it's about building trust and loyalty and creating a unique service experience. They go on to say that the promise of trust must be built into every link, form and graphic, since each time someone clicks on a site they are looking for proof of your trustworthiness.

The remainder of this section will review the theory on the six site design dimensions that this study is focussed on.

#### **3.2.1 DIMENSION #1: Functionality**

Confusing screens, dead links, long-loading graphics and other such obstacles, immediately overrides even the most excellently designed site, leading to a bad brand experience. Timacheff and Rand (2001) argue that site design is a strong mix of form and function, it must meet the needs of each potential audience as quickly as possible, and look good at the same time.

Functionality is made up of the following sub-dimensions:

#### 3.2.1.1 Site homepage downloading and image redraws

Site homepage downloading refers to the downloading of the homepage of a web site, while image redraws refers to the downloading of all the web site's subsequent pages. Korper and Ellis (2001) indicate that speed is the most significant factor determining whether users who click on to a web page will stay or leave. Most studies on user response to computing system delays suggest that waiting times longer than about 10 seconds are intolerable in routine, repetitive computing tasks (Lynch and Horton 1999). In their research on web shoppers, Zemke and Connellan (2001:p.105) found that in reality, eight seconds for a page to load "seems to be pushing it".

The measurement of downloading speed is influenced by a number of external factors such as hardware employed, slow modem or network connections, and web traffic (Mateos *et al* 2001). However, a key determinant of downloading speed is the size of graphics and images. Large graphics and special effects often slow down web site performance to the extent that visitors leave, rather than wait for a large logo to appear. The higher the byte size of an image and the more colours used, the slower the site will download. Zemke and Connellan (2001) suggest that the best way to continue use of large graphics without losing business is to have the rest of your content download first giving viewers something to read while the graphics load.



#### 3.2.1.2 Clean HTML with no faulty code

HTML is a simple text-based language in which web documents are written. Good HTML follows the current version of HTML, as specified in the HTML DTD (Document Type Definition). Documents with bad HTML ignore these standard practices; for example, non standard browser specific extension, poor background choices, large graphic files, and so on.

#### 3.2.1.3 Standard page sizes

Most web pages do not fit completely on a standard office 14-inch or 15-inch display monitor, and thus there is always part of the page that the user cannot see. This means that users must use the scroll feature both vertically and/or horizontally to view the full page layout. Many human interface researchers and designers of graphic user interfaces have noted the disorienting effect of scrolling on computer screens (Lynch and Horton 1999). In line with this research, Lynch and Horton (1999) indicate that only 10% of web surfers ever scroll the page.

Page layout must also be designed to print properly, so that words are not lost from the ends of each line of text.

### **3.2.2 DIMENSION #2: Navigation**

Smith and Chaffey (2002) describe navigation as the way in which users move from one page to another using tools such as menus and hyperlinks. Site and page layout should also be conducive to visitors finding information on a page.

Navigation mechanisms should be provided so that users can reach their desired information in the fewest possible steps (Lynch and Horton 1999). Geissler (2001) argues that providing consumers with a means of navigating quickly and efficiently through a web site is critical for facilitating interactivity. Confusing navigation can devalue even relevant information. Easy navigation is based on using a consistent page layout throughout the site to avoid having frustrated users.

Smith and Chaffey (2002) describe site structure as the big picture of how content is grouped and how different pages relate to others. A planned site structure with clear hierarchies will also allow the user to build a 'mental map' of the site (Lynch and Horton 1999).

#### 3.2.2.1 Site depth

The depth of a site is key to site structure, since it determines the number of clicks the user has to make to find relevant information. A site with a fairly flat structure is one that supports a clear system of navigation, as opposed to a deep site that requires many clicks or selections to reach the desired content. However, sites with a shallow link hierarchy often have massive menu pages of unrelated topics (Lynch and Horton 1999). Deep sites are built on a hierarchical structure and are made up of home page-and-link schemes, which move from a general overview on the home page to increasingly more specific information through submenus and content pages. The drawback of deep sites are that they can be too deep, burying information beneath too many layers of menus. Lynch and Horton (1999) indicate that the goal is to produce a well-balanced hierarchical tree that

facilitates quick access to information and helps users understand how things are organised on the site.

#### 3.2.2.2 Navigational tools

With the proliferation of corporate brands and companies online to choose from, consumers appear to be losing the patience for difficult-to-use sites ([www.themarketingsite.com/content.php?Item\\_ID=1311&Session\\_](http://www.themarketingsite.com/content.php?Item_ID=1311&Session_)). Navigation tools for users should make the underlying information architecture transparent, and help them to progress easily through a web site in a logical way (Fleming 1998; Nielsen 1999). Thus these tools should help users to maintain a mental map of where they are in the site, and how the site's various sections and pages are related to each other.

In summary, the above relevant literature indicates that tools for navigation may include any or all of:

- site map;
- search engine, especially if product/content assortment is large;
- menu;
- directory;
- frames;
- subject trees;
- navigation panels,
- and so on.

Perry and Bodkin (2000) conducted a content analysis of Fortune 100 company web sites and found that search capabilities and site maps were used most often. This suggests that these companies are trying to minimize the negative effects of information overload. Perry and Bodkin (2000) write that this also indicates that their corporate web site will attract multiple audiences. Thus, these additional navigational features allow the firm to better communicate with multiple audiences such as customers, employees and investors.

Another effective navigation tool is that of buttons, which allow users to return or progress to subsection pages. Readers who follow links directly to subsection pages buried deep in the hierarchy of a site, may never see that site's home page or other introductory information. If the sites' pages do not contain links back up the hierarchy, the visitor is locked out of access to the rest of the web site.

#### 3.2.2.3 Link integrity

Research by Dholakia and Rego (1998) confirms that complexity and extensiveness of a company's web site, determined by the number of links from the home page, are found to make it popular. Thus, developing a large web site is likely to pay off in the form of increased visits by online consumers. Users should never feel lost and therefore each page should be self-sufficient and provide links to the main contents (Mateos *et al* 2001).

Geissler's (2001) research indicated that users prefer not to scroll down a home page and much prefer hyperlinks to separate pages. Consequently many designers recommended limiting the size of the home page to one page or screen.

Well-labelled, accurate, meaningful links are a must. According to Katerattanakul (2001), reliability (e.g. hyperlinks must work) and representation (e.g. the relevance between wordings or images used for describing the hyperlink and the destination web page that the hyperlink leads to) of the hyperlinks are also essential. Scott Young, President of Perception Research Services ([www.themarketingsite.com](http://www.themarketingsite.com)) found that unclear or misleading link descriptions are a consistent source of navigation problems, and the main reason for this problem was the mismatch between “marketer language” and “customer language”.

Bullard *et al* (2001) writes that external links (to other websites) will only enhance the quality of the site if these linked web sites are relevant and of good quality. These links must be checked regularly to ensure that they are ‘live’ and accessible.

#### 3.2.2.4 Sorting mechanisms

Neidorf and Neidorf (2001) suggest that corporate sites group their product/service offerings into merchandising categories and subcategories for customer convenience. The idea is to create as many intuitive routes to a product as possible. Zemke and Connellan (2001) support this argument by stating that the best sites offer multiple options to arrive at the same product, picture and description, since these companies know that not all customers think alike, act alike, or look alike; and neither do they search a site in the same manner.

### **3.2.3 DIMENSION #3: Content**

A site's content should satisfy users' needs and according to Mateos (2001), should be updated at least monthly. Also, the home page should include an overview of the site, indicating what information and activities can be accessed through the web site.

#### **3.2.3.1 Current content**

In Geissler's (2001) research, designers agreed that the key to retaining online customers is to keep the site "fresh", "updated", and "dynamic". New information, keeping customers well informed of new products and services, specials, discounts and other developments should be provided to customers on a regular basis. However, rather than updating the entire site, designers often develop a "What's New" or "Coming Attractions" page. Geissler's work (2001) also outlined that customers seek novel experiences, apart from updated information. Frequent updates gives customers a reason to make repeated visits, thus continuing and strengthening the relationship. Including the date on which the site was last updated can be useful.

#### **3.2.3.2 Relevant content**

The content of a web site will depend on the nature of the organisation, who the site is aimed at, and how it will be used (Bickerton, Bickerton & Pardesi 2001). A site aimed at regular professional users will have little imagery and maximum functionality, while a site for occasional visitors will have more explanations, imagery and be designed to entice.

Research by Perception Research Services ([www.themarketingsite.com](http://www.themarketingsite.com)) indicates that for nearly every site, there are three to four main reasons why most people visit, suggesting that if a site focuses on identifying, highlighting and executing these key areas, it will consistently meet the needs of 80% to 90% of site visitors. So it is of utmost importance to identify and concentrate on the essential site benefits when designing site content.

A study ([www.themarketingsite.com/content.php?Item\\_ID=1311&Session\\_](http://www.themarketingsite.com/content.php?Item_ID=1311&Session_)) on online retailers found that content that addresses the nuances of product categories, customer base and distribution channels must be developed. This is especially, important for product categories for which consumers require detailed information to make a buying decision.

#### 3.2.3.3 Content organisation

Even accurate, well-written content needs to be logically organised, without which a web site will not be able to function well. Lynch and Horton (1999) suggest four basic steps in organising information online:

- divide it into logical units,
- establish a hierarchy of importance and generality,
- use the hierarchy to structure relationships among chunks of information, and
- analyse the functional and aesthetic success of the online system.

#### 3.2.2.4 Entertainment

A satisfied consumption activity comes from both an extrinsic reward of purchasing products or services and from a more intrinsic, personal, and emotional reward from consumption derived hedonic pleasure or playfulness (Babin 1994). Research by Katerattanakul (2001) indicates that entertainment is a major gratification sought in browsing the web, implying that consumers inherently enjoy web browsing. Kare-Silver (2001) adds that successful sites do more than just providing content and transaction facilities; they involve and entertain. A study by Rice (1994) also confirms that an important factor to determine the likelihood of a repeat site visit is whether the visitor found the site enjoyable. Thus, designing a web site to lead users to perceive enjoyment in their browsing activities is essential for business-to-consumer Internet commerce.

#### 3.2.3.5 Mission statement and vision

Clear, thoughtful mission statements offer a shared sense of purpose, direction and opportunity for all who read it, and are guided by a vision that offers direction for a company for the next 10 to 20 years (Kotler 2003). For this reason, an organisation's mission and vision is an essential point not to be ignored on its online site.

### **3.2.4 DIMENSION #4: Design**

The “look and feel” of a site is important in attracting users. Design must be consistent and predictable through out the pages of a web site, so that users are comfortable exploring the site, and confident that they know how to find what they are looking for. Lynch and Horton's (1999) view is that a careful, systematic approach to page design can



simplify navigation, reduce errors, and make it much easier for users to take full advantage of the information and features of the web site. Thus the overall graphic balance and organisation of the page is crucial to drawing the reader into the content of the site.

Bickerton, Bickerton & Pardesi (2001) confirm that intelligent use of a company's logo integrated with complementary colour, themes, backgrounds and other multi-media devices can project the strongest visual messages about the company and its products.

The following design tools control a company's site image:

#### 3.2.4.1 Colour

It must be remembered that different colours evoke different emotional responses; therefore careful thought must be given to the choice of colours used for fonts, backgrounds and other visual elements. The number of colours and colour harmonies used portray a certain image to visitors.

#### 3.2.4.2 Layout

A layout grid and a style for handling text and graphics must be established and adhered to. This will build a consistent rhythm and unity across all the pages of a site and will avoid frustrated customers. According to Parker (2000), layout helps nonverbally communicate "amateur" versus "professional." So a site communicating an amateur or

professional image will lead to visitors seeing the corporation or brand as one with an amateur or professional image.

#### 3.2.4.3 Typography

Text should also be consistent with the image the corporation is aiming to portray. Words must stand out, be readable and not be crowded by images. Korper and Ellis (2001) emphasize that controlling the line length greatly increases the text's readability. Clear and concise text is necessary, since consumers may be confused with information overload and unclear descriptions and instructions (Turban *et al*, 2000).

Poor spelling, grammar and punctuation hinder the appearance and readability of a site. It limits the ability of the reader to focus on the content of a site and implies unprofessionalism. Timacheff and Rand (2001) confirm that spelling, grammar, punctuation and style on a site must be clean and well managed to avoid being a big distraction for the reader and detracting from the overall brand image.

#### 3.2.4.4 Graphics and images

Graphics and images have two main formats in web pages: Graphics Interchange Format (GIF) and Joint Photographic Experts Group (JPEG) files. Bullard *et al* (2001) and Timacheff and Rand (2001) write that graphics and images increase download times significantly, so images that add nothing to the meaning and quality of the web site should not be included since they lead to the risk of weakening the brand. Timacheff and Rand (2001) go on further and write that a site with almost nothing but text also has

detrimental effects on a brand, leading to poor memorability and a “flat” image. They conclude that the key lies in balance and a good sense for matching the overall design to the audience.

### **3.2.5 DIMENSION #5: Professionalism**

*“A professional site closely mirrors the image of the company it was designed to portray.”* (Korper and Ellis 2001:p.73)

Korper and Ellis (2001) propose that a professional site should not be flashy, gaudy, profane, or otherwise offensive. Rather, it should be tailored to attract the trust of its clientele. Korper and Ellis (2001) further propose that a professional site must avoid:

- busy bright backgrounds,
- busy, complicated graphics,
- bright, elementary-looking headlines and navigation bars,
- carelessly or overly used frames that clutter a page,
- extra long pages,
- “under construction” pages,
- visual clutter: too many banners, buttons, and pointless animation.

Keh and Shieh (2001) advise that a retail site must provide more information than physical store personnel can offer such as recipes, cooking tips, and so on. Tosh (1998) confirms that such additional information can create virtual neighbourhood, enabling loyal audiences to return.

### **3.2.6 DIMENSION #6: Interactivity**

Hoffman and Novak (1995) pointed out that interactivity on the web frees customers from their traditionally passive roles as receivers of marketing communications, gives them greater control over the information search and acquisition process, and allows them to become active participants in the marketing process. Upshaw (1995) also wrote that the interactive nature of the web offers marketers new opportunities to create stronger brand identities that have the potential to translate into brand loyalty.

Blattberg and Deighton (1991) defined interactivity as the facility for individuals and organisations to communicate directly with one another regardless of distance and time. This leads to personalisation, which tailors the nature and form of interactivity according to unique individual needs. (Richardson 2001) Richardson (2001) further states the goal of personalisation as the creation of a customised surfing experience for each user.

In contrast to the traditional one-to-many marketing communications media, the web has made it possible for an interactive many-to-many communication environment. In their research, Ghose and Dou (1998) found that an increase in the degree of interactivity had a significant positive effect on the quality/attractiveness of corporate web sites.

Ghose and Dou's (1998) study presents a broad, and almost exhaustive, list of twenty-three forms of interactivity tools that are employed by Internet sites in their marketing

communications. A list of these functions and their brief explanations are provided below:

#### 3.2.6.1 Customer Support

Customer support interactive functions aid customers in their use of the internet and include:

- software downloading
- online problem diagnostics
- electronic-form (e-form) inquiry
- order status tracking
- comment
- feedback
- frequently asked questions (FAQs)

Planning for this type of ongoing relationship with site users is vital to the long-term success of the organisation. Customer feedback relies on an efficient back-office support to respond to user's inquiries and comments timeously. Online problem diagnostics, order status tracking and FAQ pages all reduce the time demands on back-office support staff. Bickerton, Bickerton and Pardesi (2001) suggest that companies provide an e-mail address at the bottom of the FAQ page to encourage visitors to pose new questions. They argue that this provides a great customer forum and adds value to the site.

#### 3.2.6.2 Marketing Research

Marketing research surveys involve soliciting visitor comments, levels of satisfaction or dissatisfaction and obtaining suggestions for future site or product refinements. In essence, says Tosh (1998), customers become product and site developers, and companies benefit in that they use this knowledge to make their products or web sites more appealing to customers. Surveys may include any or all of:

- site survey
- product survey
- new-product proposal

#### 3.2.6.3 Personal-Choice Helper

This tool allows browsers to become purchasers by actively helping them make their purchasing decisions. According to Ghose and Dou (1998), the following are types of personal-choice helpers that can be employed:

- keyword search
- virtual reality display
- dealer locator

#### 3.2.6.4 Advertising/Promotion/Publicity

Zemke and Connellan (2001) write that adding community is a cheap addition to any site because visitors create the bulk of the content, and the payoff is that visitors enjoy visiting the site since they feel it appeals to part of their psyche. It gives them the feeling that the site was built with them in mind. McWilliam's (2000) research findings indicate

that established sites with online communities thrive because they offer their participants a forum for exchange of common interests, a sense of place with codes of behaviour, the development of congenial and stimulating dialogue leading to trust-based relationships, and encouragement for active participation.

Apart from online communities or user groups, other tools pertaining to promotions may also be employed, such as:

- electronic coupon
- online order
- sweepstakes/prizes
- multimedia shows
- push media
- interactive job placement

#### 3.2.6.5 Entertainment

Online tools providing entertainment, as suggested by Ghose and Dou (1998), may include the following:

- electronic post cards
- surfer postings
- games

### 3.3 INCORPORATING USERS INTO THE DESIGN PROCESS

According to Lynch and Horton (1999), functional stability has two components: getting things right the first time when the site is being designed and then keeping things functioning smoothly over time. Incorporating research into the design process at all stages focuses development efforts on the site's primary sources of value, and away from features that are not likely to be utilised.

Perception Research Services ([www.themarketingsite.com](http://www.themarketingsite.com)) recommends involving web users at three points in the web development process:

- Concept testing early in the development process guides decisions on content and design, and provides an understanding of visitor's expectations and objectives.
- Usability testing at the working prototype stage confirms functionality and guides refinements prior to going live. McCarthy *et al* (2000/2001) confirm that effective web site design can be more rapidly developed using prototype testing. This will effectively incorporate user requirements into the design of the site.
- Site-based surveys (after the site has been introduced) will help measure user satisfaction, the site's impact on attitude and behaviour, and guide further site improvements.

The research by Perception Research Services ([www.themarketingsite.com](http://www.themarketingsite.com)) concludes that designers who involve the visitor throughout web development are likely to be



rewarded with a streamlined process, a more effective final product and evidence of the impact and effectiveness of their work.

### **3.4 CONCLUSION**

Building a web site is an ongoing process with dynamic as opposed to static data. Regular editorial management and technical maintenance must be provided to ensure the long-term success of online efforts.

## **CHAPTER FOUR**

### **RESEARCH METHODOLOGY**

#### **4.1 SAMPLING**

##### **4.1.1 BRAND RELATIONSHIP SCORE**

Mari Harris, Director of Public Opinion Research at Markinor explained that for the Sunday Times/Markinor Branding Survey 2002 “three scores for spontaneous awareness, levels of trust and commitment were combined to produce a brand relationship score which, expressed as a percentage, provides a holistic measurement of a brand’s health.”

[www.biz-community.com/PressOffice/PressRelease.aspx?i=170&ai=1015](http://www.biz-community.com/PressOffice/PressRelease.aspx?i=170&ai=1015)

According to the Sunday Times survey report (2002), brands may achieve short-term purchase behaviour through discounting or promotions. Therefore in the calculation of the brand relationship score, the awareness and attitudinal steps that precede purchase behaviour are included. This has been done by expressing the commitment score as a percentage. The score was first adjusted downward for attitudinal (trust and confidence) level that fell below its maximum potential score, and the down-weights brand score was further adjusted for shortfalls in top-of-mind awareness. The result is a brand

relationship score based on customers' behavioural commitment to the brand, but also taking weaknesses in liking and top-of-mind awareness into account." (2002:1)

#### 4.1.2 SUNDAY TIMES/MARKINOR SAMPLING

Responses obtained for the Sunday Times/Markinor Branding Survey 2002 are representative of the South African adult population, so 16 years and older, living in residential homes, urban and rural, are included. A total of 3 496 interviews were conducted, 1 996 in metropolitan areas, and 1 500 in non-metropolitan areas. All interviews were face-to-face.

Table 4.1 gives a complete list of the ten product categories and the top ten firms within each category as ranked by the survey.

**Table 4.1: Product Categories and their Top Ten Brands according to Relationship Score**

CATEGORY	BRANDS SELECTED
Household cleaners and detergents	Omo, Sunlight, Handy Andy, Jik, Surf, Sta Soft, Mr Min, Domestos, Jeyes, Vim
Clothing stores	Edgars, Jet, Pep Stores, Sales House, Woolworths, Mr Pirce, Ackermans, Foschini, Truworths, Markhams
Cars	Toyota, BMW, Mercedes Benz, Volkswagen, Mazda, Ford, Nissan/Datsun, Honda, Isuzu, Opel
Magazines	Bona, Drum, You, True Love, Pace, Huisgenoot, Fair Lady, Sarie, Rooirose, Living & Loving
Petrol brands	BP, Shell, Caltex, Engen, Total, Sasol, Exel, Trek, Zenex, Afric Oil
Short-term insurance companies	Santam, Mutual & Federal, Auto & General, Outsurance, SA Eagle, First National Insurance, Budget Insurance, Prestasi, Alexander Forbes, Guardian National
Long-term insurance companies	Old Mutual, Sanlam, Metropolitan, Liberty, Hollard, African Life, Clientele, Southern Life, Fedsure, Momentum
Over-the-counter medicines	Disprin, Panado, Grand-Pa, Eno, Borstol, Vicks, Compral, Anadin, Med-Lemon, Benylin
Banks	Standard Bank, FNB, ABSA, Nedbank, People's Bank, Perm, NBS, African Bank, Volkskas, Saambou

Electronic and electrical goods	Defy, Panasonic, LG, Philips, Nokia, Telefunken, Sony, Samsung, KIC, Kenwood
Soft drinks and fruit juices	Coca Cola, Fanta, Sprite, Lemon Twist, Schweppes, Liqui-Fruit, Oros, Stoney Ginger Beer, Krest, Sparletta
Beer	Castle/Castle Lager, Hansa, Carling/Carling Black Label, Amstel, Lion, Hunter's Gold/Dry, Redds, Savannah, Windhoek Lager, Heineken
Food	Tastic, Ace, Koo, Iwisa, Huletts, Impala, Blue Ribbon, Sasko, Clover, Lucky Star
Spirits	Smirnoff, Klipdrift, Viceroy, Mellow-wood, Oudemeester, J&B, Martell VO Brandy, Bell's Whisky, Gordon's London Dry Gin, Mainstay
Beauty products and toiletries	Colgate, Sunlight, Lux, Aquafresh, Vaseline, Shield, Palmolive, Dawn, Lifebuoy, Revlon
Grocery stores	Pick 'n Pay, Spar, Checkers, Shoprite, Shoprite/Checkers, OK Bazaars, Diskom, Hyperama, Woolworths, Game
Fast-food outlets	KFC, Chicken Licken, Nando's, Steers, Wimpy, MacDonald's, Spur, King Pie, Something Fishy, Debonairs Pizza

#### 4.1.3 RESEARCH SAMPLE

The population is the total of 170 brands that are identified according to 17 categories by the 2002 Sunday Times/Markinor Branding Survey. The study undertaken employs a 100% probability sample since each brand has a 100% chance of selection for inclusion in this study.

Of the total of 170 brands, some were produced by the same manufacturer or owner. This resulted in a collection of sites being represented on a single manufacturer's web site, rather than on their own individual site. For the purposes of this study, the average brand relationship score was calculated for companies that owned multiple brands. This situation occurred in the following instances:

- The brands Unilever owns and their corresponding brand relationship scores are Omo (30%), Handy Andy (29%), Lux (17%), Surf (16%), Vaseline (11%), Shield (10%), Dawn (8%), Sta Soft (7%), Domestos (5%), Vim (3%) and Lifebuoy (6%). Unilever's

Sunlight brand scores 29% in the household cleaner and detergent category and 17% in the beauty products and toiletries category. Thus, overall Unilever's average brand relationship score was 14%.

- Coca-Cola's brands are Coca-Cola (56%), Fanta (19%), Sprite (16%), Stoney Ginger Beer (5%), Sparletta (5%) and Krest (5%), and results in an average brand relationship score of 18%.
- FNB (30%) owns Saambou (1%), making FNB's average brand relationship score 16%.
- Shoprite (17%), Checkers (22%), ShopriteCheckers (14%), Hyperama (4%) and OK Bazaars (6%), all fall under the same group. The Shoprite group has recently bought the OK brand and is now trading under the name OK Furniture. Shoprite's average score is 13%.
- Engen (18%) owns Trek (1%), making Engen's score 9%.
- Edcon owns Jet (17%) and Sales House (15%), making Edcon's average brand relationship score 16%.
- Pepkor owns Pep Stores (15%) and Ackermans (8%), making Pepkor's score 11%.
- Amstel (6%), Hansa (11%), Redds (3%), Heineken (1%), Carling Black Label (10%) and Lion Lager (4%) are all owned by SABMiller, bringing SABMiller's average score to 6%.
- Jik (18%), Disprin (28%) and Mr. Min (6%) are owned by Reckitt Benckiser, whose average score is 17%.
- GlaxoSmithKline owns GrandPa (20%), Aquafresh (12%), Eno (11%), Med-Lemon (7%) and Borstol (9%), bringing GlaxoSmithKline's average score to 12%.

- Isuzu (6%) and Opel (4%) are owned by Delta Motor Corporation, bringing its average score to 5%.
- Drum (18%), Sarie (2%), True Love (10%) and Fair Lady (2%) are owned by Media24, whose score is 8%.
- Adcock Ingram's average score is 13%, as a result of its ownership of the brands Panado (27%), Jeyes (4%) and Compral (8%).
- Premier Food's ownership of Blue Ribbon (7%), Iwisa (10%) and Impala (7%) brings its score to an average of 8%.
- CadburySchweppes' ownership of the Schweppes (10%) and Lemon Twist (15%) brands, brings its average score to 12%.
- Outsurance's (1%) take over of First National Insurance (3%), boosts Outsurance's average brand relationship score by 1%, to 2%.
- Momentum's (1%) ownership of Southern Life (1%), maintains its average score of 1%.
- The brands Distell owns and their corresponding brand relationship scores are Klipdrift (4%), Martell VO Brandy (2%), Mellow-Wood (4%), Oudemeester (3%), Viceroy (4%), Mainstay (1%), Gordon's London Dry Gin (2%), Hunters (3%), and Savannah (1%). Thus, overall Distell's average brand relationship score was 3%.
- ColgatePalmolive owns Colgate (24%) and Palmolive (9%), bringing their average score to 16%.
- Finally, Woolworths inclusion in two separate categories, as a clothing store (10%) and as a grocery store (4%), averages out its brand relationship score to 7%.

The following obstacles further narrowed down the number of sites that were finally analysed. The following web sites were either unavailable or inaccessible as at 1st February 2003:

- The magazines Bona, Pace and Living & Loving are published by Caxton Publishers. Upon contacting the publishing company telephonically, it was confirmed that no site was available for the company.
- Engen recently bought Zenex, but as yet, no mention was made of Zenex on the Engen web site.
- Guardian National's, Volkskas's, and African Life's site address could not be located by the researcher. These companies were also not listed in the directory, thus also hindering any telephonic enquiry.
- The web site for take-away franchise Something Fishy could also not be located by the researcher.
- Upon telephonic enquiry, it was found that Fedsure was recently unbundled and sold and was therefore no longer in existence.
- The web sites for Anadin and Markhams were inaccessible due to their being 'under construction.'

Due to the above-mentioned reasons, only 102 web sites were finally analysed (sample: n = 102) as detailed in Table 4.2 below.

**Table 4.2: Sample Population of Sites Analysed (n=102)**

COMPANY	SCORES - AVERAGE BRAND RELATIONSHIP	COMPANY	SCORES – AVERAGE BRAND RELATIONSHIP
1. Standard Bank	40	52. Premier Foods	8
2. Toyota	32	53. MacDonald's	8
3. BP	32	54. Pioneer Foods	7
4. KFC	36	55. Liqui-Fruit	7
5. ABSA	30	56. Bromor Foods	7
6. Old Mutual	26	57. Sasol	7
7. Shell	26	58. Woolworths	7
8. BMW	25	59. SABMiller	6
9. Edgars	22	60. Nissan/Datsun	6
10. Pick 'n Pay	22	61. Honda	6
11. Spar	22	62. Huisgenoot	6
12. Chicken Licken	21	63. Nokia	6
13. Castle/Castle Lager	18	64. Nu World	6
14. Coca-Cola	18	65. Sony	6
15. Caltex	18	66. Clover	6
16. Mercedes-Benz	18	67. Smirnoff	6
17. Reckitt Benckiser	17	68. Spur	6
18. Sanlam	16	69. Diskom	5
19. ColgatePalmolive	16	70. Lucky Star	5
20. FNB	16	71. Delta Motor Corp.	5
21. Edcon	16	72. Nedcor	5
22. Unilever	14	73. Perm	5
23. Metropolitan	14	74. Samsung	5
24. Tastic	14	75. KIC	5
25. Total	14	76. Santam	4
26. Adcock Ingram	13	77. Mutual & Federal	4
27. Shoprite	13	78. Kenwood	4
28. Volkswagen	13	79. Revlon	4
29. GlaxoSmithKline	12	80. King Pie	4
30. Defy	12	81. Game	3
31. Ace	12	82. Distell	3
32. CadburySchweppes	12	83. Liberty	3
33. Panasonic	11	84. NBS	3
34. LG	11	85. Pfizer	3
35. Philips	11	86. Auto & General	3
36. Pepkor	11	87. Debonair's Pizza	2
37. Nando's	11	88. J&B	2
38. Steers	11	89. Outsurance	2
39. Mr. Price	10	90. Bell's Whisky	2
40. Mazda	10	91. Hollard	2
41. You	10	92. Clientele	2
42. Koo	10	93. African Bank	2
43. Wimpy	9	94. SA Eagle	2
44. Engen	9	95. Exel	2
45. Ford	9	96. Namibian Breweries	1
46. Vicks	8	97. Momentum	1
47. Foschini	8	98. Budget Insurance	1
48. Truworths	8	99. Prestasi	1
49. Media24	8	100. Alexander Forbes	1
50. Nedbank	8	101. Rooi Rose	1
51. Huletts	8	102. Afric Oil	1



In order to roughly halve the total sample of 102 sites, a brand relationship score of 8 was chosen as the cut-off point. All sites with a score of 8 or more were classified as 'leader' sites, and sites with a score of less than 8 were classified as 'runner-up' sites. Thus sites 1-53 (53 sites) were classified as 'leader' sites, and sites 54-102 (49 sites) were classified as 'runner-up' sites.

## **4.2 ADDITIONAL RESEARCH**

In an attempt to find more specific differences between the leader and runner-up sites, the researcher had also undertaken additional research on the top 10 versus bottom 10 sites and on the top 30 versus the bottom 30 sites. The relevance of this additional research is to identify which site design criteria are specifically applied by leader and/or runner-up sites.

## **4.3 DATA COLLECTION**

Objectivity refers to the process by which analytical categories are developed and used (Kolbe and Burnett 1991). From the literature review, both objective and subjective site design components were identified as being essential to a well-designed site. For the purposes of this research, however, only marketing-related and objective criteria were selected. Non marketing-related criteria (e.g. originality and lateral thinking) and subjective criteria (e.g. relevant content and eye-catching graphics) were ignored. The researcher identified 34 objective site components that were subsequently organised into 9 broad categories. These broad categories include functionality, navigation, content, design, professionalism and customer support, market research, personal-choice helper

and advertising/promotion/publicity criteria, which can be assessed using exclusively objective measurements (refer to definitions of these categories in Chapter 1 pp.3-4).

The dimensions and sub-dimensions formed the basis of the research instrument (data sheet). The data sheet was used to record the raw data from each of the web sites (refer to Appendix One). A nominal scale (producing ordinal data) was used to evaluate web sites according to their application of the design criteria.

Kolbe and Burnett (1991) suggest that precise operational definitions and detailed rules and procedures for coding are needed to facilitate an accurate and reliable coding process. Table 4.3 lists the operational definitions of the web site design components that were chosen for this study.

**Table 4.3 : Web Site Design Component Definitions**

<p><b>Criteria 1: Functionality</b></p> <ul style="list-style-type: none"> <li>• <i>Multilingual transactions</i>: an option is available to browse the site in a choice of two or more languages</li> <li>• <i>Standard page sizes</i>: standard pages may involve vertical scrolling, but not horizontal scrolling</li> <li>• <i>Site homepage downloading (less than 10 seconds)</i>: the amount of time taken for a site's homepage to completely appear on the screen</li> <li>• <i>Image redraws (less than 10 seconds)</i>: the amount of time taken for the subsequent pages of a company's site to completely appear on the screen</li> <li>• <i>Clean HTML with no faulty code</i>: all graphics, icons, etc. should be properly visible with no HTML coding being apparent</li> </ul>
<p><b>Criterion 2: Navigation</b></p> <ul style="list-style-type: none"> <li>• <i>Link integrity</i>: all links, when clicked upon, should lead to a fully operational web page</li> <li>• <i>Sorting mechanisms</i>: a company's offerings should be sorted out according to product or user categories to ease navigation for the consumer and limits a consumers' search activities</li> <li>• <i>Search engines</i>: a search mechanism should be provided for a browser to type in a search word or expression to easily pinpoint the information s/he is looking for</li> <li>• <i>Aids, tools and help resources</i>: includes any form of assistance which may help a user to navigate the web site easily and efficiently, and may include a sitemap, search tips, and so on</li> </ul>
<p><b>Criterion 3: Design</b></p> <ul style="list-style-type: none"> <li>• <i>Good grammar, spelling, punctuation, etc.</i></li> <li>• <i>Audio and streaming media</i>: includes video clips, prompts to turn sound on, and so on</li> <li>• <i>Use of active X, rollovers, applets, etc.</i>: includes all forms of moving or flashing objects, or graphics that change as the user rolls the mouse over it</li> </ul>

<p><b>Criterion 4: Content</b></p> <ul style="list-style-type: none"> <li>• <i>Specific company mission or goals:</i> a statement specifically stating the company's business and/or short-term goals</li> <li>• <i>Forward thinking, vision:</i> a description of the company's future long-term plans</li> </ul>
<p><b>Criterion 5: Professionalism</b></p> <ul style="list-style-type: none"> <li>• <i>Free services/tools/facilities provided:</i> any resource or action provided that are additional to a firm's basic offerings and may be related or non-related to the company's business e.g. external links, screensaver downloads, financial calculators.</li> <li>• <i>Absence of unrequested intrusions:</i> any additional windows or pop-ups that may appear on the screen without the user specifically requesting it</li> </ul>
<p><b>Criterion 6: Customer Support</b></p> <ul style="list-style-type: none"> <li>• <i>Ease of contact, inbound communications:</i> telephone and fax numbers or e-mail addresses are easily provided on the web site for users to easily contact the company</li> <li>• <i>Customer testimonials provided:</i> letters, reports or statements by users of the company's products/services regarding the service they received from the company, quality and performance of the product/service, after-sales service, and so on</li> <li>• <i>FAQs provided:</i> the most routine, repetitive questions from users are listed along with the answers</li> <li>• <i>Privacy practices published:</i> a write-up on the copyright issues surrounding the company's site content, the user's confidential information, and so on</li> <li>• <i>Software downloading:</i> software or plug-in downloads are provided for free on a site</li> <li>• <i>E-form inquiry and comments:</i> e-forms on which customers can type in online inquiries regarding the products or the firm</li> </ul>
<p><b>Criterion 7: Marketing Research</b></p> <ul style="list-style-type: none"> <li>• <i>Site survey:</i> an e-form that solicits visitor's comments on the content and design of the site</li> <li>• <i>Product survey:</i> an e-form on the firm's offerings to determine customer satisfaction</li> <li>• <i>New-product survey:</i> an e-form for customers to answer or write about their suggestions for product improvements or expectations and suggestions for new products</li> </ul>
<p><b>Criterion 8: Personal-Choice Helper</b></p> <ul style="list-style-type: none"> <li>• <i>Advanced search:</i> a function that allows the user to further refine his/her search efforts in an attempt to locate particular information</li> <li>• <i>Personal-choice helper:</i> a function that can make recommendations on consumer choices based on the consumer's input of preferences and other criteria</li> <li>• <i>Virtual reality display:</i> allows consumers to virtually "feel or experience" the product</li> <li>• <i>Dealer locator:</i> adequate information to help a consumer to get in touch with or locate the nearest dealer</li> </ul>
<p><b>Criterion 9: Advertising/Promotion/Publicity</b></p> <ul style="list-style-type: none"> <li>• <i>Electronic coupon:</i> e-coupons are distributed online and can be used in retail stores</li> <li>• <i>Usergroups:</i> offer a cyber community for users to learn, share and communicate with others</li> <li>• <i>Online shopping:</i> an option to order products online</li> <li>• <i>Competitions/prizes:</i> online events held to attract surfers and encourage their participation online</li> <li>• <i>Job placement:</i> career development, online vacancies and applications, and so on</li> </ul>

A content analysis technique was chosen to be applied in this investigation. "Content analysis is a research technique for making replicable and valid inferences from data to their context. As a research technique, content analysis involves specialised procedures for processing scientific data." (Krippendorff 1980)

In the analysis, each sub-criterion that was identified to be in use for a particular brand's web site, was ticked. Finally, for each of the six main criteria the total number of ticks was added and that number reflected how the brand scored on that criterion.

#### **4.4 VALIDITY AND RELIABILITY**

Validity of a test refers to establishing whether a test measures what it is supposed to measure (Cooper & Schindler 2001). To ensure content validity, a thorough examination of relevant literature was undertaken so that all major site design variables were analysed for inclusion in the research instrument.

Pretesting of the research instrument was also carried out to refine its content validity. The results of the pretesting discovered further subjective criteria that were wrongly included in the data sheet. For example, under the criterion of design, 'colour harmony' was included; and under the criterion of content, 'relevant content' was listed. These subjective criteria were eliminated. This pretesting ensured validity (measuring what is intended), completeness (including all relevant site design criteria), and readability (to avoid misinterpretation of criteria). Thus it can be assumed that the research instrument and research constructs exhibit content and face validity.

Reliability, on the other hand, refers to obtaining similar results each time using the same measuring instrument (Cooper & Schindler 2001). Kolbe and Burnett (1991) consider the inherent weaknesses in the usage of content analysis as a research technique. They

suggest that content analysis is quite susceptible to the effects of researcher biases, which can affect decisions made in the collection, analysis and interpretation of data, and hence affect a study's contribution to knowledge.

A reliable procedure should yield the same results from the same set of phenomena regardless of the circumstances of the application (Krippendorff 2001). This implies that some duplication of efforts is essential. To improve reliability in this study, the researcher employed the help of an independent party to assist with the pretesting of the data sheets. As a result, initial problems with category definitions, subjective categories and researcher bias were eliminated.

#### **4.5 REPORTING ERRORS**

It is difficult to completely eliminate reporting errors. However, in the content analysis undertaken in this study, every precaution was taken to keep these errors to a minimum. Pretesting was also conducted to test the objectiveness of the criteria included in the data sheet. Criteria that were still found to be rather subjective were removed from the study. Clear definitions were also provided of all criteria to avoid any discrepancies in the content analysis results.

#### **4.6 LIMITATIONS TO THE STUDY**

The primary limitation of this study is that due to the dynamics of Web-enabled commerce, continual monitoring of the development and functionality of web sites is needed. The cross-sectional nature of the data collected in this research implies that longitudinal data will likely be needed in the future.

Another limitation is that due to the limited sample used, results of this research cannot be generalised to other companies and neither should broad conclusions be drawn. Sudman's (1976) guidelines for institutional surveys with very few subgroup analyses indicates that a sample size of 50-200 does not provide a serious limitation. Hence, this study's sample size of 102 is adequate. The criteria that were applied most frequently by the companies used in this study do not necessarily imply that the usage of these criteria will result in a company's brand being highly ranked by consumers.

A further limitation is that this study does not rank criteria by weight of importance, and it is critical for web site designers to know which features are most important to users.

## **CHAPTER FIVE**

### **RESEARCH RESULTS**

#### **5.1 INTRODUCTION**

After the data collection, the raw data had to be converted from raw form to a reduced form that was more appropriate for analysis. In this case, the totals for each criterion had to be tabulated to simplify the process of data entry.

Frequency distributions were then determined, which reports the number of times that each criterion was present. Descriptive statistics helps summarise the information presented in the frequency table.

#### **5.2 FREQUENCIES**

Table 5.1 indicates that only 92.4% of the leader sites have 3 or more of the functionality criteria, while the entire 100% of the runner-up sites have 3 or more of the functionality criteria. Therefore there are still a small number (4 sites in total) of leader sites who have employed less than 3 functionality criteria.

**Table 5.1: Frequency of Criterion 1 - Functionality**

Frequency of criterion 1 (functionality) for leader sites (n=53)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
1.00	1	1.9	1.9
2.00	3	5.7	7.5
3.00	5	9.4	17.0
4.00	40	75.5	92.5
5.00	4	7.5	100.0
Total	53	100.0	

Frequency of criterion 1 (functionality) for runner-up sites (n=49)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
3.00	8	16.3	16.3
4.00	41	83.7	100.0
Total	49	100.0	



Table 5.2 indicates that while a larger number of runner-up sites (32 runner-up sites as compared to 26 leader sites) have applied 2 or 3 of the navigation tools, the leader sites (15 in total) have clearly exceeded the runner-up sites (4 sites only) in applying all 4 navigation tools.

**Table 5.2: Frequency of Criterion 2 - Navigation**

Frequency of criterion 2 (navigation) for leader sites (n=53)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
1.00	12	22.6	22.6
2.00	12	22.6	45.3
3.00	14	26.4	71.7
4.00	15	28.3	100.0
Total	53	100.0	

Frequency of criterion 2 (navigation) for runner-up sites (n=49)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	1	2.0	2.0
1.00	12	24.5	26.5
2.00	16	32.7	59.2
3.00	16	32.7	91.8
4.00	4	8.2	100.0
Total	49	100.0	

Table 5.3 clearly shows that 49.1% of leader sites have employed the use of at least 1 design criterion as compared to 38.8% of runner-up sites. However, 51.7% of runner-up sites have utilised 2 of the design criteria as compared to only 39.6% of leader sites. Also, 11.3% of leader sites have employed all 3 design criteria as compared to 4.1% of runner-up sites.

**Table 5.3: Frequency of Criterion 3 - Design**

Frequency of criterion 3 (design) for leader sites (n=53)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
1.00	26	49.1	49.1
2.00	21	39.6	88.7
3.00	6	11.3	100.0
Total	53	100.0	

Frequency of criterion 3 (design) for runner-up sites (n=49)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
1.00	19	38.8	38.8
2.00	28	57.1	95.9
3.00	2	4.1	100.0
Total	49	100.0	

Table 5.4 indicates that the use of content in the design of a web site is almost similar for leader and runner-up sites, with slight frequency variations.

**Table 5.4: Frequency of Criterion 4 – Content**

Frequency of criterion 4 (content) for leader sites (n=53)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	16	30.2	30.2
1.00	18	34.0	64.2
2.00	19	35.8	100.0
Total	53	100.0	

Frequency of criterion 4 (content) for runner-up sites (n=49)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	12	24.5	24.5
1.00	20	40.8	65.3
2.00	17	34.7	100.0
Total	49	100.0	

This research indicates that the use of professionalism in the design of a web site is also almost similar for leader and runner-up sites, with slight frequency variations. This is represented in Table 5.5, as well as in Figures 5.5 and 5.6.

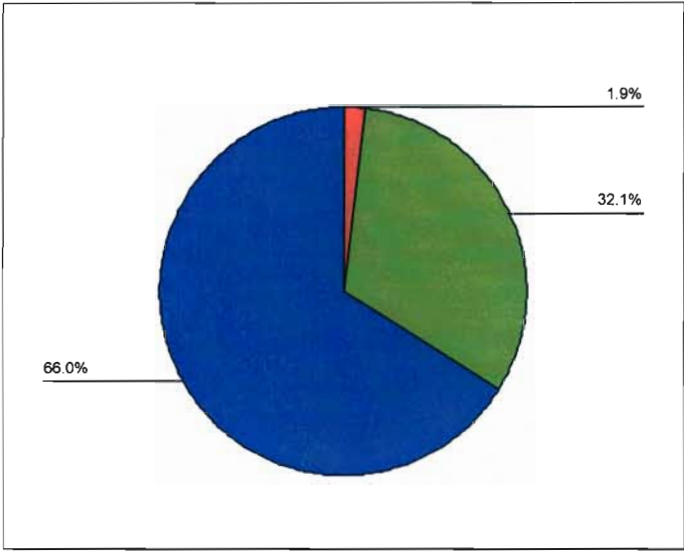
**Table 5.5: Frequency of Criterion 5 – Professionalism**

Frequency of criterion 5 (professionalism) for leader sites (n=53)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	1	1.9	1.9
1.00	17	32.1	34.0
2.00	35	66.0	100.0
Total	53	100.0	

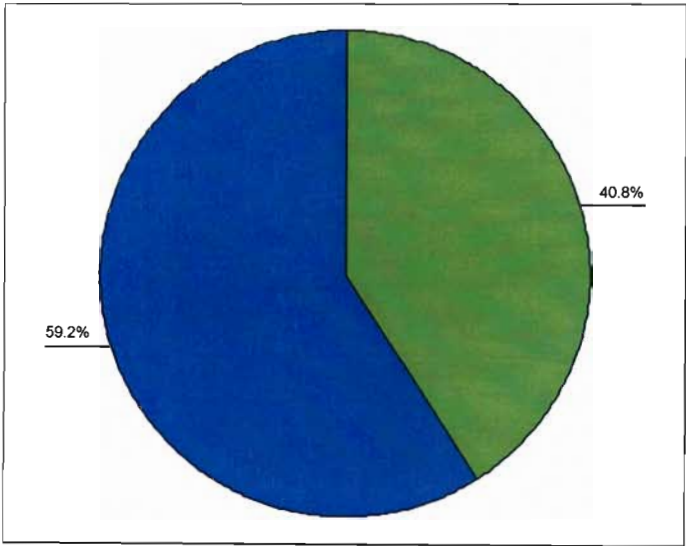
  

Frequency of criterion 5 (professionalism) for runner-up sites (n=49)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
1.00	20	40.8	40.8
2.00	29	59.2	100.0
Total	49	100.0	

**Figure 5.1: Frequency of Criterion 5 (professionalism) for leader sites**



**Figure 5.2: Frequency of Criterion 5 (professionalism) for runner-up sites**



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35.8% of leader sites have applied 0, 1 or 2 customer support criteria as compared to 51% of runner-up sites. Furthermore, 64.2% of leader sites have applied 3 or more of the criteria as compared to only 49% of runner-up sites. This is shown in Table 5.6 and demonstrates that almost 15% more leader sites apply more than 2 customer support criteria on their web sites.

**Table 5.6: Frequency of Criterion 6 – Customer Support**

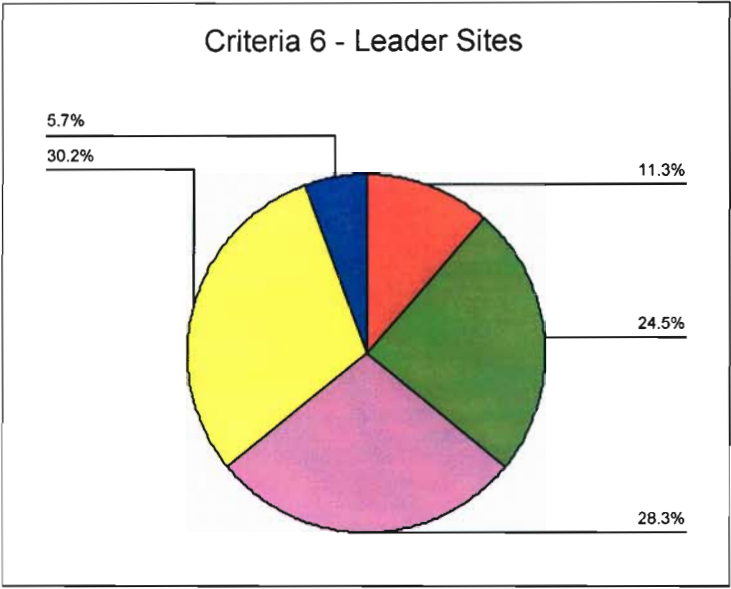
Frequency of criterion 6 (customer support) for leader sites (n=53)			
Number of sub-criteria	Frequency	Valid Percent	Cumulative Percent
1.00	6	11.3	11.3
2.00	13	24.5	35.8
3.00	15	28.3	64.2
4.00	16	30.2	94.3
5.00	3	5.7	100.0
Total	53	100.0	

Frequency of criterion 6 (customer support) for runner-up sites (n=49)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	1	2.0	2.0
1.00	8	16.3	18.4
2.00	16	32.7	51.0
3.00	16	32.7	83.7
4.00	7	14.3	98.0
6.00	1	2.0	100.0
Total	49	100.0	

This is also illustrated in Figures 5.7 and 5.8.

**Figure 5.3: Frequency of Criterion 6 (customer support) for leader sites**



**Figure 5.4: Frequency of Criterion 6 (customer support) for runner-up sites**

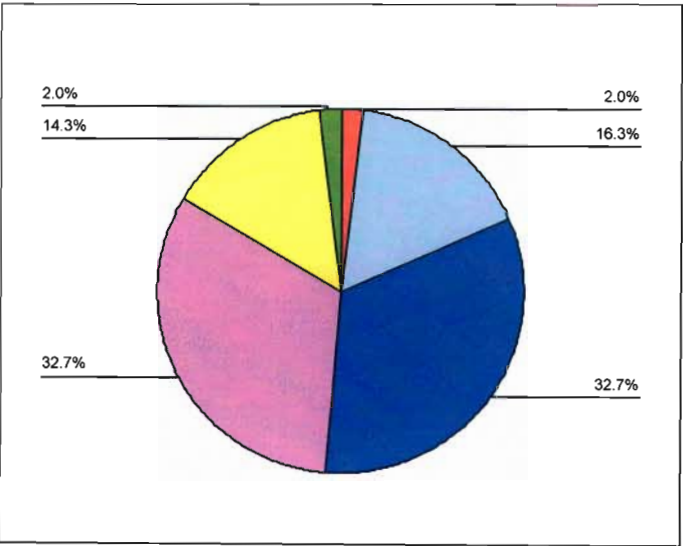


Table 5.7 demonstrates that an extremely large percentage (90% - 92%) of both leader and runner-up sites do not employ any marketing research online criteria at all.

**Table 5.7: Frequency of Criterion 7 – Marketing Research**

Frequency of criterion 7 (marketing research) for leader sites (n=53)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	48	90.6	90.6
1.00	3	5.7	96.2
2.00	2	3.8	100.0
Total	53	100.0	

Frequency of criterion 7 (marketing research) for runner-up sites (n=49)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	45	91.8	91.8
1.00	4	8.2	100.0
Total	49	100.0	



No runner-up sites have applied more than 2 of the 4 personal-choice helpers listed, as displayed in Table 5.8. Leader sites have shown more interest in this region, and 3 leader sites have employed 3 or 4 of these tools. Thus, use of a personal-choice helper is poor for both categories.

**Table 5.8 – Frequency of Criterion 8 – Personal-Choice Helper**

Frequency of criterion 8 (personal-choice helper) for leader sites (n=53)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	21	39.6	39.6
1.00	21	39.6	79.2
2.00	8	15.1	94.3
3.00	2	3.8	98.1
4.00	1	1.9	100.0
Total	53	100.0	

Frequency of criterion 8 (personal-choice helper) for runner-up sites (n=49)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	21	42.9	42.9
1.00	22	44.9	87.8
2.00	6	12.2	100.0
Total	49	100.0	

The application of advertising/promotion/publicity criteria is similar for leader and runner-up sites as demonstrated in Table 5.9, where extensive use is poor. Twelve leader sites have shown more interest by employing 2 or more of these criteria, while only half of this number of runner-up sites employ the same amount of criteria.

**Table 5.9: Frequency of Criterion 9 – Advertising/Promotion/Publicity**

Frequency of criterion 9 (advertising/promotion/publicity) for leader sites (n=53)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	18	34.0	34.0
1.00	23	43.4	77.4
2.00	8	15.1	92.5
3.00	3	5.7	98.1
4.00	1	1.9	100.0
Total	53	100.0	

Frequency of criterion 9 (advertising/promotion/publicity) for runner-up sites (n=49)			
Number of sub-criteria employed	Frequency	Valid Percent	Cumulative Percent
.00	22	44.9	44.9
1.00	21	42.9	87.8
2.00	5	10.2	98.0
4.00	1	2.0	100.0
Total	49	100.0	

### **5.3 T-TEST**

Table 5.10 implies that there is a significant difference in the application of criterion 6 (customer support) between leader and runner-up sites, since for criterion 6 significance = .043 ( $p > .05$ ). Similarly, for criterion 2 there is also a significant difference. However, none of the other criteria show any significant difference.

**Table 5.10: Mean Differences between Leader and Runner-up Sites (Independent Samples Test)**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Crit 1*	Equal variances assumed	4.708	.032	-.217	100	.828	-.0254
	Equal variances not assumed			-.222	78.449	.825	-.0254
Crit 2*	Equal variances assumed	3.250	.074	1.900	100	.060	.3997
	Equal variances not assumed			1.911	99.560	.059	.3997
Crit 3*	Equal variances assumed	3.853	.052	-.244	100	.808	-.0304
	Equal variances not assumed			-.246	98.571	.806	-.0304
Crit 4*	Equal variances assumed	.361	.549	-.288	100	.774	-.0454
	Equal variances not assumed			-.289	99.965	.773	-.0454
Crit 5*	Equal variances assumed	.088	.768	.491	100	.624	.0497
	Equal variances not assumed			.492	99.918	.624	.0497
Crit 6*	Equal variances assumed	.002	.968	2.047	100	.043	.4536
	Equal variances not assumed			2.046	99.322	.043	.4536
Crit 7*	Equal variances assumed	2.112	.149	.686	100	.494	.0504
	Equal variances not assumed			.698	88.436	.487	.0504
Crit 8*	Equal variances assumed	1.226	.271	1.183	100	.240	.1929
	Equal variances not assumed			1.197	95.120	.234	.1929
Crit 9*	Equal variances assumed	.045	.832	1.515	100	.133	.2668
	Equal variances not assumed			1.524	99.480	.131	.2668

\* Criterion 1 – Functionality  
 Criterion 3 – Design  
 Criterion 5 – Professionalism  
 Criterion 7 – Marketing Research  
 Criterion 9 – Advertising/Promotion/Publicity

Criterion 2 – Navigation  
 Criterion 4 – Content  
 Criterion 6 – Customer Support  
 Criterion 8 – Personal-Choice Helper

With regard to Table 5.2, 54.7% of leader sites and 40.8% of runner-up sites employ three or more navigation criteria. This is almost a 14% difference. More specifically, 28.3% (15 sites) of leader sites and only 8.2% (4 sites) of runner-up sites employ four or more navigation criteria. Therefore, by including the application of just one more sub-criterion, the difference now increases from almost 14% to 20%. This demonstrates that leader sites are employing a significantly higher percentage of navigation criteria than runner-up sites. This difference is responsible for the significant difference from the independent samples test.

In the same manner, looking at the frequency of Criterion 6 (Table 5.6), 35.9% (19 sites) of leader sites and only 16.3% (8 sites) of runner-up sites employ four or more customer support criteria. This difference of almost 20% indicates that leader sites are employing a significantly higher percentage of customer support criteria than runner-up sites. Therefore leader sites have a slight tendency to be more customer supportive online.

#### **5.4 CLUSTER ANALYSIS**

The researcher used Cluster Analysis to classify the 102 cases into 2 homogenous subgroups. K-Means Cluster Analysis was applied.

Assuming there are two clusters: Cluster 1 and Cluster 2. Cluster 1 comprises sites displaying leader characteristics, so ideally, all leader sites should by virtue of their specific application of site design criteria all fall into Cluster 1. In the same manner,

Cluster 2 comprises sites displaying runner-up characteristics, so ideally, all runner-up sites should fall into Cluster 2.

The cluster membership that results (refer to Table 5.11) demonstrates however, that a large percent of leader sites do not fall in Cluster 1, and conversely, that a large percentage of runner-up sites also do not fall in Cluster 2.

**Table 5.11: Cluster Membership**

Case Number	RANKING	Cluster	Distance
1	leader	2	1.517
2	leader	2	2.692
3	leader	1	1.385
4	leader	1	2.301
5	leader	2	2.971
6	leader	2	2.593
7	leader	2	1.888
8	leader	1	2.427
9	leader	2	2.268
10	leader	2	1.803
11	leader	1	1.874
12	leader	1	1.932
13	leader	1	2.764
14	leader	2	2.953
15	leader	1	2.540
16	leader	2	1.997
17	leader	2	2.572
18	leader	2	2.712
19	leader	2	3.226
20	leader	2	2.268
21	leader	2	1.916
22	leader	1	1.585
23	leader	2	1.618
24	leader	1	2.042
25	leader	1	1.824
26	leader	1	1.515
27	leader	1	1.798
28	leader	2	1.943
29	leader	2	2.087
30	leader	1	1.718
31	leader	1	2.695
32	leader	2	1.313
33	leader	2	1.916
34	leader	2	2.291
35	leader	2	1.446
36	leader	1	1.178
37	leader	1	1.736
38	leader	1	3.054
39	leader	1	2.509
40	leader	2	3.385
41	leader	1	2.407
42	leader	1	2.546
43	leader	1	1.883
44	leader	2	1.832
45	leader	1	2.314
46	leader	1	1.754
47	leader	1	1.605
48	leader	1	1.883
49	leader	1	1.874
50	leader	2	1.650
51	leader	2	2.124
52	leader	1	2.087
53	leader	1	1.849

**Table 5.11 continued: Cluster Membership**

54	runner-up	1	1.891
55	runner-up	1	1.988
56	runner-up	1	1.736
57	runner-up	1	1.385
58	runner-up	2	2.881
59	runner-up	2	2.112
60	runner-up	1	2.065
61	runner-up	1	2.095
62	runner-up	1	2.407
63	runner-up	1	2.477
64	runner-up	1	1.874
65	runner-up	2	2.149
66	runner-up	1	1.883
67	runner-up	1	1.754
68	runner-up	1	2.490
69	runner-up	1	2.764
70	runner-up	1	1.891
71	runner-up	1	1.815
72	runner-up	1	1.899
73	runner-up	1	2.328
74	runner-up	2	1.446
75	runner-up	1	2.139
76	runner-up	1	1.754
77	runner-up	2	1.916
78	runner-up	1	1.515
79	runner-up	1	1.718
80	runner-up	1	1.292
81	runner-up	2	2.788
82	runner-up	2	1.618
83	runner-up	2	2.149
84	runner-up	1	1.824
85	runner-up	2	1.713
86	runner-up	1	1.718
87	runner-up	1	1.605
88	runner-up	1	1.754
89	runner-up	1	1.585
90	runner-up	1	2.211
91	runner-up	2	.966
92	runner-up	1	1.824
93	runner-up	1	1.806
94	runner-up	1	2.139
95	runner-up	1	2.589
96	runner-up	2	1.682
97	runner-up	2	2.061
98	runner-up	1	1.948
99	runner-up	1	1.494
100	runner-up	2	.966
101	runner-up	1	1.595
102	runner-up	1	1.754



This indicates that leader and runner-up sites are not displaying the characteristics of leader and runner-up sites respectively, since Table 5.11 confirms that a large percentage of leader sites do not fall in the same cluster, and conversely, that a large percentage of runner-up sites also do not fall in the same cluster. Specifically, 25 out of 53 leader sites (47%) and 36 out of 49 runner-up sites (74%) are not displaying the characteristics of leader and runner-up sites respectively. In other words, 47% of leader sites are displaying the characteristics of runner-up sites, and 74% of runner-up sites are displaying the characteristics of leader sites.

## **5.5 RELIABILITY ANALYSIS**

An examination of the items comprising the criteria for website design in Table 5.12 indicates that all the criteria have very low corrected scores i.e. total correlations. This indicates that each criterion is very disparate and stands on its own, meaning that a well-designed web site does not require a specified combination of these criteria.

The only exception is that of Criterion 2 (navigation) and Criterion 6 (customer support) that display a mild linkage (correlation score is .5070). Rather, a well designed website could be as a result of the application of only a single or few of these criteria.

The Cronbach's alpha for the overall scale is equal to .5507, indicating moderate inter-item reliability.

Table 5.12: Cronbach’s Reliability Analysis – 9 items

Correlation Matrix					
	FUNCTION	NAVIGATI	DESIGN	CONTENT	PROFESS
FUNCTION	1.0000				
NAVIGATI	.0692	1.0000			
DESIGN	.1474	.0770	1.0000		
CONTENT	-.0551	.0082	.0380	1.0000	
PROFESS	-.0293	.2004	.2133	.0506	1.0000
CUST.SUP	.0899	.5070	.0953	-.0088	.2109
MKTRES	.0885	.1113	.1279	-.0968	.1162
PERS.CHO	-.0349	.1636	.1991	.0098	.1411
ADVPROMO	.1952	.1769	.0806	.0584	.2018
	CUST.SUP	MKTRES	PERS.CHO	ADVPROMO	
CUST.SUP	1.0000				
MKTRES	.1654	1.0000			
PERS.CHO	.1399	-.1213	1.0000		
ADVPROMO	.3789	.0784	.1599	1.0000	
N of Cases =		102.0			
Statistics for	Mean	Variance	Std Dev	N of	
Scale	15.0490	11.1362	3.3371	Variables	
				9	
Item-total Statistics					
	Scale	Scale	Corrected		
	Mean	Variance	Item-	Squared	
Alpha					
if Item	if Item	if Item	Total	Multiple	
Deleted	Deleted	Deleted	Correlation	Correlation	
FUNCTION	11.2255	10.3348	.1209	.0818	
.5523					
NAVIGATI	12.6373	7.5998	.4017	.2777	
.4617					
DESIGN	13.4118	9.8684	.2227	.1166	
.5299					
CONTENT	13.9706	10.4447	.0125	.0235	
.5895					
PROFESS	13.4314	9.9111	.3021	.1266	
.5171					
CUST.SUP	12.3235	6.9537	.4828	.3563	
.4206					
MKTRES	14.9412	10.7094	.1198	.0893	
.5508					

PERS.CHO	14.2549	9.4393	.2007	.1181
.5369				
ADVPRMO	14.1961	8.3770	.3784	.2052
.4764				
—				
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   ( A L P H A )				
Reliability Coefficients            9 items				
Alpha =        .5507                      Standardized item alpha =        .5262				

5.6 DISCRIMINANT ANALYSIS

In an attempt to identify the most discriminating criteria, discriminant analysis was conducted. Table 5.13 shows that the top three most discriminating criteria are that of Criterion 2 – navigation (coefficient = .418), Criterion 6 - customer support (coefficient = .386) and Criterion 9 - advertising/promotion/publicity (coefficient = .358). Therefore discriminant analysis distinguishes between leader and runner-up sites mainly on the basis of these three criteria.

Table 5.13: Discriminant Analysis Function Coefficients

	Function
	1
Crit 1	-.199
Crit 2	.418
Crit 3	-.241
Crit 4	-.113
Crit 5	-.074
Crit 6	.386
Crit 7	.212
Crit 8	.348
Crit 9	.358

## 5.7 ADDITIONAL RESEARCH

The cluster analysis conducted illustrates that there is mostly no difference between leader and runner-up sites since both types of sites demonstrate similar behaviour. To further highlight this point, the researcher has conducted additional analysis on the top 10 versus bottom 10 sites and on the top 30 versus the bottom 30 sites. The aim of this additional research is to determine whether there is a difference in the application of site design criteria for top 10 versus bottom 10 and top 30 versus bottom 30 sites.

An independent samples test was conducted. The results for the t-test for equality of means with equal variances assumed is illustrated in Table 5.15, where the results for the ‘top half versus bottom half’ (leader versus runner-up), top 10 versus bottom 10 and top 30 versus bottom 30 sites are compared.

**Table 5.14: t-Test for Equality of Means with Equal Variances Assumed for Main and Additional Research**

	Top half vs Bottom half		Top 10 vs Bottom 10		Top 30 vs Bottom 30	
	Significance (YES/NO)	T-test	Significance (YES/NO)	T-test	Significance (YES/NO)	T-test
<b>Criterion 1 - Functionality</b>	<b>NO</b>	t = -.217 sig = .828	<b>NO</b>	t = .600 sig = .556	<b>NO</b>	t = .000 sig = 1.000
<b>Criterion 2 - Navigation</b>	<b>YES</b>	t = 1.900 sig = .060	<b>YES</b>	t = 1.945 sig = .068	<b>YES</b>	t = 1.749 sig = .086
<b>Criterion 3 – Design</b>	<b>NO</b>	t = -.244 sig = .808	<b>NO</b>	t = -1.000 sig = .331	<b>NO</b>	t = -.387 sig = .700
<b>Criterion 4 – Content</b>	<b>NO</b>	t = -.288 sig = .774	<b>NO</b>	t = -1.387 sig = .182	<b>NO</b>	t = .663 sig = .510
<b>Criterion 5 – Professionalism</b>	<b>NO</b>	t = .491 sig = .624	<b>NO</b>	t = 1.567 sig = .135	<b>NO</b>	t = .994 sig = .325
<b>Criterion 6 – Customer Support</b>	<b>YES</b>	t = 2.047 sig = .043	<b>YES</b>	t = 2.623 sig = .017	<b>NO</b>	t = 1.212 sig = .230
<b>Criterion 7 – Market Research</b>	<b>NO</b>	t = .686 sig = .494	<b>NO</b>	t = .447 sig = .660	<b>NO</b>	t = .826 sig = .412
<b>Criterion 8 – Personal-Choice Helper</b>	<b>NO</b>	t = 1.183 sig = .240	<b>NO</b>	t = 1.282 sig = .216	<b>NO</b>	t = 1.420 sig = .161
<b>Criterion 9 – Advertising/ Promotion/Publicity</b>	<b>NO</b>	t = 1.515 sig = .133	<b>YES</b>	t = 3.973 sig = .001	<b>YES</b>	t = 3.221 sig = .002

The results indicate that there is a significant difference in three instances only, namely:

- for criterion 2 for ‘top half versus bottom half’, ‘top 10 versus bottom 10’ as well as ‘top 30 versus bottom 30’
- for criterion 6 for ‘top half versus bottom half’ and ‘top 10 versus bottom 10’ sites
- for criterion 9 for ‘top 10 versus bottom 10’ and ‘top 30 versus bottom 30’ sites

Therefore this verifies the results of the discriminant analysis that criteria 2, 6, and 9 are the most discriminating factors.

For criteria 1, 3, 4, 5, 7, and 8, there are no significant differences in all instances i.e. ‘top half versus bottom half’, ‘top 10 versus bottom 10’ and ‘top 30 versus bottom 30’ sites.

## **CHAPTER SIX**

### **CONCLUSION AND RECOMMENDATIONS**

This study is based on the findings of the Sunday Times/Markinor Branding Survey 2002, which researched and identified the top 170 brands in South Africa (classified according to 10 retail categories). This study investigates the web site design criteria applied by the companies (n=102) who own the top 170 brands in South Africa. For the purposes of this study, these sites were ranked according to their brand relationship scores (as identified by the Markinor research) as leader (n=53 sites) or runner-up sites (n=49 sites). A content analysis of the web sites was undertaken. These sites were then analysed according to nine site design criteria and sub-criteria as identified by a literature search to be the most important in the design of a successful site.

The results indicated the following, as discussed in the previous chapter:

- For functionality, navigation, design, content, professionalism and customer support criteria, the means are all greater than 1. This implies that for each of these six criteria, more than 50% of web sites for both leader and runner-up sites have applied 1 or more sub-criteria for each of these criteria.
- For marketing research, personal-choice helper and advertising/promotion/ publicity criteria, the means are all less than 1, indicating that for each of these criteria, more than 50% of web sites for both leader and runner-up sites have applied none of the sub-criteria for these three criteria at all.

- There is a significant difference in the application of navigation and customer support criteria between leader and runner-up sites (as interpreted from the results of the t-test).
- The cluster analysis indicates that there in many cases there is no difference between leader and runner-up sites since both types of sites demonstrate similar characteristics.
- For criteria 1, 3, 4, 5, 7, and 8, there are no significant differences for all cases of 'top half versus bottom half', top 10 versus bottom 10' and 'top 30 versus bottom 30'.

Organisations that launch web sites should be more aware of the complexity of web site design and develop a strategy to facilitate a successful web site design for electronic marketing activities. A web site requires commitment and has to be monitored continually in the light of new developments both within the organisation and in the electronic marketplace. If this does not happen, the web site will fail to be relevant to the needs of its users. The site also has to be updated regularly to avoid becoming old-fashioned and out-dated in the rapidly changing environment of the Internet.

Based on the results of this study, a final interest for the researcher lies in the recommendations for future research and possible managerial consideration. These can be outlined as follows:

- There is a need to analyse the effect of web site design on customer satisfaction. From the criteria/sub-criteria on which this study is based, those that have low



customer satisfaction scores should be discarded and additional criteria should be identified if they exist. Those criteria/sub-criteria that have high satisfaction scores but are not applied well, need to be focused on. Ideally, companies classified as leader sites should have full or optimum application of all criteria identified as having high satisfaction scores, hence clearly distinguishing themselves from runner-up sites.

- This study is based on the analysis of sites of the companies who own the top brands in South Africa, not according to online or offline sales, but rather according to brand relationship (behavioural commitment, liking and top-of-mind awareness). Future research should involve an analysis of company sites according to the top online sales of brands in these categories to determine what makes a company's site profitable in terms of sales.
- This study merely sheds some light on the area of site design criteria. However, since web sites change periodically, it is necessary to re-evaluate the sites in the future. Business organisations and web developers should actively seek ways to improve information, service quality and customer satisfaction provided via web sites.
- Since large enterprises clearly lead the way in the application of information technology, it is evident that differences will exist in what design criteria will lead to a successful site for large and small enterprises. Therefore a more complete picture of the key dimensions for conducting e-commerce activities on the web needs to be

established. A comparative study could be conducted between large and small enterprises on the perception of design quality of web sites.

- For the purposes of this study, only objective marketing-related site design criteria were chosen to comprise the data sheet (Appendix 1). Future studies should be more in-depth and include an analysis of subjective factors as well as non marketing-related criteria e.g. technical and aesthetic criteria, and so on.
- Apart from simply analysing which design criteria create customer satisfaction, future research could also analyse consumers purchasing and browsing patterns. Therefore the aim would be to analyse which data mining techniques (as a means to create intelligence-based web sites) improve or hinder customer satisfaction.
- Finally, this study only analyses companies focused on the manufacture, marketing and distribution of retail product and services. Future studies could categorise companies according to industry type (e.g. B2C, B2B, C2B, C2C) or product type (retail consumer goods, manufacturing goods, professional services, etc.)

It is apparent that academic research of web technology will lag hopelessly behind constantly evolving technology and industry practise. No sooner is a topic studied than it is likely to become obsolete. Therefore research and corporate organisations must continuously invest in research in the area of web technology so that their online efforts remain up-to-date and relevant to consumers.

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## APPENDIX ONE – DATA SHEET

<b>Company Name:</b>	<b>TOTAL</b>
<b>Site Address:</b>	
<b>Criterion 1: FUNCTIONALITY (5)</b> Multilingual translations Standard page sizes Site homepage downloading (less than 10 seconds) Image redraws (less than 10 seconds) Clean HTML with no faulty code	
<b>Criterion 2: NAVIGATION (4)</b> Link integrity Sorting mechanisms Search engines Aids, tools and help resources	
<b>Criterion 3: DESIGN (3)</b> Good grammar, spelling, punctuation etc. Audio and streaming media Use of active X, rollovers, applets, etc.	
<b>Criterion 4: CONTENT (2)</b> Specific company mission or goals Forward thinking, vision	
<b>Criterion 5: PROFESSIONALISM (2)</b> Free services/tools/facilities provided Absence of unrequested intrusions (e.g. pop-ups)	
<b>Criterion 6: Customer Support (6)</b> Ease of contact, inbound communications (fax, tel., e-mail, etc.) Customer testimonials provided FAQ's provided Privacy practices published Software downloading E-form inquiry and comments	
<b>Criterion 7: MARKETING RESEARCH (3)</b> Site survey Product survey New-product proposal	
<b>Criterion 8: PERSONAL-CHOICE HELPER (4)</b> Advanced search Personal-choice helper Virtual reality display Dealer locator	
<b>Criterion 9: ADVERTISING/PROMOTION/PUBLICITY (5)</b> e-coupon Usergroups Online shopping Competitions/prizes Job placement	