

**PRINTED NEWSPAPERS AND ON-LINE NEWS: A STUDY OF THE
FACTORS INFLUENCING CONSUMER ACCEPTANCE OF
ELECTRONIC NEWS VIA THE INTERNET.**

by

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SUMMARY

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The aim of this study was to determine the factors influencing readership of electronic news via the Internet. The status of printed news in the changing news environment was also investigated in the light of increasing electronic news readership. In order to achieve this aim, current electronic news readers were probed on their Internet news readership.

The findings indicated that although traditional printed news was still very widely read, the shift amongst Internet users seemed to be towards reading more electronic news in the

future. This study found that the two most significant factors that will lead to an increase in electronic news readership are the following:

- This medium being accessed free of charge, i.e. where no monthly Internet subscriptions need to be paid. This has been achieved through free Internet access via ABSA since 16 February 2001; and
- an improvement in the speed of access.

The fact that traditional printed newspapers can be read in an informal environment seemed to be the single most important factor in maintaining its popularity.

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CHAPTER 1

INTRODUCTION

1.1 MOTIVATION

This study attempts to build an understanding of the complexities of the influences on publishers of news in traditional newspapers, imposed by the development of news on the World Wide Web. Rapid changes have occurred in the field examined in this analysis, owing to the impact of the prolific growth of Internet news sites. Simultaneously, in the new environment of news “production”, where news appears from various servers and sources, within a matter of seconds, both readership and sales of traditional print newspapers have altered profiles.

The purpose of this study was to determine the factors influencing consumers' acceptance of on- line news and to determine whether the readership of printed newspapers had altered. With the development of the World Wide Web (Web), more than 4000 electronic publishers have created Web sites since 1995 (O'Reilly, 1998:80), and are now in competition not only with each other, but also with traditional print media such as newspapers and magazines. Owing to a variety of factors, for example a decreasing market for newspaper circulation, newspaper publishers currently perceive the competing medium of news on the World Wide Web as not only the most immediate, but certainly the most serious, systematic, long term threat to traditional newspaper publishing to

date (O'Reilly, 1998:84). Consequently, a goal of this thesis was to ascertain the development of electronic newspapers, and analyse how newspaper journalists are currently using the Web. In addition, an assessment will be made of the possible impact of news on the Web– both now and in the future- especially on practitioners and publishers in the newspaper industry.

1.2 BACKGROUND TO THE STUDY

The World Wide Web has seen dramatic growth during the last five years (1996-2001), and the ability for anyone to become an information provider is easy. One need only search for news sites on the Internet to become aware of this fact. Phillips (1998:37) holds that in the short time-frame of three years (1995-1998), more than 8000 Web sites have been built which are operated by print, radio, television and non traditional news organisations.

In response to the opposition to the supremacy of the daily newspaper in the production of news for the public, Contiff (1994:32) indicated that newspapers have spent more time and money than any other medium focussing on attempts to predict the future. Fidler (1997:16) concurs and contends that the immediate consequence of the announcement of practically every major discovery or breakthrough in the past two centuries, was generally followed by a deluge of wild speculation proclaiming the birth of a new era, or alternatively the possibility of a revolution in the making. For newspaper and magazine publishers, Fidler believed the transformation from mechanical printing presses and pulp

paper to digital print media, offers publishers of newspapers especially, numerous opportunities to create and profit from a wealth of new products and services. Finally, the changing sources and data for the news via the Internet present enormous challenges to the press to present the news in ways that will engage the public and ensure the viable publication of newspapers.

For instance, traditional newspapers have always had some sort of borders: streets, cities, or neighbouring competition that effectively created invisible borders for their circulation area. Since the Internet knows no borders, news from a World Wide Web server is international. Yet, ironically perhaps the news from the Web is virtually as close as news that originates from within one's country of residence. Thus, the subsequent lack of boundaries creates special problems for newspaper publishers as they try to defend their markets. Previously, publishers were in competition locally, but in the current situation the news media face competition from neighbouring cities, provinces and countries. Globalisation of markets has developed overnight in the area of production of news, and this is associated directly with the massive growth of the Internet news sites.

In addition to new competition from the Web, there are other significant issues forcing newspapers to adopt digital publishing. A study by the Newspaper Association of America (NAA) in 1998, (<http://www.naa.com/articles/1998/12>) found that newsprint costs have risen dramatically, and as publishers raise their circulation prices to offset these costs, readers go elsewhere.

Furthermore, the fragmentation of the media, or the growth of niche publications is a widely documented problem for print, worldwide. The Internet is, perhaps, the most perfectly positioned media to take advantage of the distinctive movement towards the favouring of a more individually tailored type of publication. Use of the Internet facilities offers publishers numerous opportunities for custom designing content to suit individual needs. Consequently, there is also the opportunity for print media to design publications around individual readers.

The importance of the Internet both to our generation and to future generations is considered here, for one could argue that the Internet is one of the most significant media developments of all time. Largely, the rate at which information is diffused and the notable effect the Internet has imposed on established media consumption patterns suggests the power of this new technology.

It is thus pertinent to study factors that affect a consumer's decision to read news in an electronic form, since this will have an enormous bearing on future media readership patterns, and ultimately the future of printed newspapers. With the accompanying competitive and environmental pressures, newspapers are in a state of rapid change that will extend into the 21st century (Outing, 1996a).

1.3 THE PROBLEMS AND ISSUES TO BE INVESTIGATED

In the current economic climate, newspapers encounter increased competition, declining circulation and decreasing advertising revenues (Chronis, 1998:55). Declining markets were a result of the soaring popularity of electronic media, particularly television and radio as well as a tendency towards “alliteracy” which refers to a person who can read but chooses not to read, as a result of having access to news and information via electronic means. Moreover, the electronic news on the Internet has an enormous potential to further contribute to “alliteracy” as there is often easy access to the news with pictures and sound via one’s computer. Increasingly readers are showing a preference for symbols and visual representations of images, rather than reading the contents of a newspaper.

A widely documented concept is the “fragmentation of the media” which is the current terminology for the situation where media becomes more targeted and focussed on a tighter, more closely defined target market. In many instances, the adoption of such publishing techniques is referred to as a niche market, which implies “narrowcasting” to a smaller audience as opposed to “broadcasting” to a wide audience. This new form of publishing news for a small and targeted audience has also contributed to competition in the circulation of news, which creates pressure for traditional daily newspapers, as increasingly many new “niche” media are launched around the world. Importantly, the Internet is ideally poised to become the ultimate “niche” medium as tailored content can be custom published to suit individual readers’ tastes.

A major contributing factor to the decline of newspaper advertising revenue and circulation over the years has been the decline of the use of the newspaper for the classified-type publications. Competition from publications such as Auto Trader, Junk Mail and Property News has substantially impacted on newspaper revenues and circulations (Maniscalco, 1997). The area most affected by these niched classified publications is the “classifieds” section of the newspaper itself.

“Classifieds” represent, on average, 37% of a newspaper’s revenue and Web publishing with sites such as Auto Trader on-line, where motor vehicles are sold, @ Big Break which advertises personals and jobs, and on-line property listings are taking an increasing proportion of the “classifieds” revenue. Consider the ERA property group in South Africa, with the company property pages on-line. Consumers no longer have to purchase newspapers to obtain the details of the properties for sale. Currently, the information required by the reader is available via the Internet (<http://www.era.co.za>) which is easily accessible and cheaper than a newspaper.

The Web is extremely conducive to searching classified advertising, and anyone with a computer can enter the market as a buyer or seller and ultimately impact on the newspaper markets. Interestingly, Forrester Research, an Internet research company (Albers, 1997:47) predicted that by the end of 2001, newspaper classifieds will have lost:

- 40% of property advertising,
- 30% of services required,

- and 20% of automotive advertising categories.

The seller of services or goods who previously used the “classifieds” will probably succumb to the Web’s vigorous competition and offer of lower prices and circulation among larger audiences.

In an effort to counter the threat posed by the Internet, many newspaper companies have taken the decision to establish an Internet presence for individual press company’s news titles. In the USA, more than 2500 newspapers have placed their publications on the Net since 1995 (Outing 1998). In line with these trends, most newspaper titles in South Africa have on-line editions and are establishing Internet sites that carry similar themes to the printed articles.

Therefore, the study will investigate the growth of electronic news, the factors affecting this growth and offer a critical evaluation of the effect that the news on the Internet has on printed news.

1.4 VALUE OF THE RESEARCH

The transformation from mechanical printing presses and pulp paper to digital print media, offers numerous opportunities for newspaper publishers to create and profit from a wealth of new products and services. However, competing with an array of non-traditional information providers on the World Wide Web whilst simultaneously defending the newspaper franchise and re-educating staff will present enormous

challenges for management and staff of traditional newspaper companies. (Fidler, 1997:17).

Rogers (1996:25), maintains that many publications are rapidly establishing Web-sites without considering the consequences. Moreover he argues that this rationale is a 'reflex action' (Rogers, 1996: 25) and one that is not conducive to the newspapers' survival into the next century. Here, the significant issue is the actual presence of the newspaper on the Web and how the press takes on the challenge of a new form and mode of transmission. Merely setting up a site on the Web may not be enough to engage a readership. Cochrane (1995:38) states that too many products are 'shovelware', in that the printed material, from the newspaper, is simply made available, in an electronic version on the Web. As Cochrane suggests, reading screen after screen of a 50-inch story can be a painful experience. Maniscalco (1997) agreed that just being a newspaper Web-site is insufficient. As executive director of Boston.com, Maniscalco contends that newspaper Web sites need to reflect a large quantity of content and holds that end users seek more interactive, user friendly sites.

Thus, traditional newspaper publishers require a full understanding of readership demands from the electronic version. Furthermore, publishers should take cognisance of the factors that influence consumers to read an electronic version of their newspaper.

1.5 THEORETICAL AND CONCEPTUAL BACKGROUND

The framework for exploring consumer acceptance of new products is drawn from the area of research known as the diffusion of innovations. Consumer researchers who specialise in the diffusion of innovations are primarily interested in understanding two closely related processes: firstly, the 'diffusion' process and secondly the 'adoption' process. In the broadest sense, 'diffusion' is a macro-process concerned with the spread of a new product, an innovation, in this instance electronic newspapers from its source to the consuming public. In contrast, 'adoption' is a micro-process that focuses on the stages through which an individual consumer passes, when deciding to accept or reject a new product. Both aspects of 'diffusion' and 'adoption' are addressed in the analysis of this thesis. 'Diffusion' is comprehensively reflected in the review of the literature, and 'adoption' is discussed in the research of the factors that influence a consumer's choice to read electronic news via the Internet.

1.6 OUTLINE OF CHAPTERS

Chapter 1 focuses on the background, aim, objectives and theoretical basis of the research.

Chapter 2 explores the diffusion of the innovation, where the four stages in the diffusion process, the innovation; the channels of communication; the social system and time are explored. This chapter also provides a theoretical analysis of diffusion literature.

Furthermore, the Internet and electronic newspapers are discussed with reference to the particular concept of diffusion. Finally, the history of the Internet and the diffusion of news sites is explored.

Chapter 3 uncovers the adoption process and the stages a consumer progresses through in deciding to adopt or reject an innovation. The innovation decision process model is used in this instance, and the stages of knowledge, persuasion, decision, implementation and confirmation are explored with reference specifically to the Internet and electronic newspapers.

In chapter 4 the concept of reinvention is examined. The chapter discusses how technological innovations are frequently redefined by consumers in the adoption process. This is described through an exploration of the failed Videotex experiments. Videotex was seen as the precursor to the Internet, however, consumers reinvented the service. The degree of change on Videotex was so radical that finally its end use was nothing like the original form its inventors had conceived.

In chapter 5 the design of the research is described with reference to the research hypotheses, sample size and composition, population units of study and the various variables to be tested. Questionnaire design issues, pilot study methodology and the statistical tests adopted are also detailed in the chapter.

Chapter 6 deals with an analysis of the research. The techniques and procedures used to analyse the results and the results themselves, as they relate to the following are delineated:

- the distribution of the demographic variables of the respondents;
- the variables associated with reading trends of electronic news and printed news;
- the variables associated with reading more electronic news;
- the variables associated with continuing to read more printed news;
- the factors affecting a consumer's decision to read electronic news.

Chapter 7 forwards conclusions and recommendations based upon the findings of the research and relating back to the hypotheses and the results of previous studies. Recommendations are made for future research and practical guidelines are offered both for publishers of electronic news on the Internet and for publishers of traditional printed newspapers.

CHAPTER 2

DIFFUSION OF THE INNOVATION

According to Rogers (1995: 10), diffusion is defined as the process by which an *innovation is communicated* through certain channels over *time* among the members of a *social system*. The four main elements are the innovation, communication channels, time and the social system. The above-mentioned four elements of diffusion of innovations are examined in terms of current theoretical positions.

2.1 THE DIFFUSION PROCESS

2.1.1 The innovation

According to Rogers (1995:18), no universally accepted definition of the terms *product innovation* or *new product* exists. Instead, there are various approaches that define a new product or service. Contemporaneous approaches suggest that the diffusion process may be classified in terms of definitions such as: firm-oriented, product-oriented, market-oriented and consumer-oriented. (Schiffman & Kanuk, 1994:133).

2.1.1.1 Firm-oriented definitions

A firm-oriented approach treats the 'newness' of a product from the perspective of the company producing or marketing the actual product. If the product is 'new' to the company, the 'newness' is recognised. However, the above-mentioned definition ignores

the possibility that the product may not be 'new' to competitors or consumers. Consistent with such a view, copies or modifications of a competitor's product would qualify as 'new' products. While the above-mentioned definition has considerable merit if the objective is to examine the impact that a 'new' product has on the firm, the contention is invalid, if the goal is to understand consumer acceptance of a 'new' product (Schiffman & Kanuk, 1994:116).

2.1.1.2 Product-oriented definitions

In contrast to firm-oriented definitions, a product-oriented approach focuses on the features inherent in the product itself, and on the effects that these features are likely to have on consumers' established usage patterns. For example, one product-oriented framework considers the extent to which a new product is likely to disrupt established behaviour patterns (Schiffman & Kanuk, 1994:118).

Furthermore, in terms of product-orientated definitions the following three types of product innovations emerge:

1. A continuous innovation, which has the least disruptive influence on established patterns and, in addition, involves the introduction of a modified product, rather than a totally new product. For example, a continuous innovation is represented in the Swatch Scuba Watch, which is not a new invention but rather it is an innovative development of an existing product.

2. A dynamically continuous innovation is somewhat more disruptive than a continuous innovation, but still does not alter established behaviour patterns. It may involve the creation of a new product or the modification of an existing product. For example, disposable nappies evince the qualities of disruption, yet simultaneously involve modification of the commonly used cloth -nappies.
3. A discontinuous innovation, requires consumers to adopt new behaviour patterns, for example, the use of home computers (Schiffman & Kanuk, 1994).

Notably, some discontinuous innovations, such as Videotex interactive computer information services, had difficulty gaining consumer acceptance. While initial developers of Videotex systems believed that a consumer need existed, consumers seemed to feel that the information provided by Videotex overlapped with information that was already found in newspapers and magazines. Moreover, Videotex was less accessible than leafing through a newspaper; and in terms of capital outlay Videotex was undoubtedly more expensive than a newspaper (Fidler, 1997:66).

Although Sears and IBM were informed by the experience of Videotex, investment in the Videotex technology was not withheld. Sears and IBM jointly initiated a venture in the late 80's called Prodigy, a Videotex service. Although Prodigy has been growing by about 25% per annum, it appears that profitability from Videotex information services keeps moving further into the future as the Internet becomes the medium of choice amongst consumers. Audiotex, a product that offers a service comprised mainly of

information and entertainment delivered via the telephone, in contrast, has a market that has grown dramatically.

Thus research suggests that differences in the diffusion and/or acceptance of basic technologies like the 'telephone and television' versus the 'computer' can seriously impact on the acceptance of related technologies such as Audiotex and Videotex (Schiffman & Kanuk, 1994:245). This is shown to be pertinent to this study as well and is fully examined in chapter 4 of this paper.

2.1.1.3 Market-oriented definitions

A market-oriented approach judges the newness of a product according to how much exposure consumers have to the new product. In terms of the market-orientated approach, a product is considered new:

1. If the product has been purchased by a relatively small percentage of the potential market;
2. If the product has been on the market for a relatively short period of time.

Both these market-oriented definitions are subjective since the researcher must establish the degree of sales penetration within the market that qualifies the product as an innovation. In addition, the researcher must determine how long the product can be on the market and still be considered new.

2.1.1.4 Consumer-oriented definitions

While each of the three approaches described above, has been useful to consumer researchers in the study of diffusion of innovations, some researchers have suggested that a consumer-oriented approach is the most appropriate way to define an innovation. In this context a new product is any product that a potential consumer judges to be new. In other words, newness is based on the consumers' perception of the product, rather than on physical features or market realities (Schiffman & Kanuk, 1994:240).

Rogers, (1995: 11), concurs that “an innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. It matters little, so far as human behaviour is concerned, whether or not an idea is objectively new as measured by the lapse of time since its first use or discovery. The perceived newness of the idea for the individual determines his or her reaction to it. If the idea seems new to the individual, it is an innovation”.

The theme of diffusion of innovation will be further examined in relation to electronic newspapers as an elaboration of the central issues raised by diffusion and innovation theories.

2.1.2 Electronic newspapers as a discontinuous innovation

Almost overnight, the World Wide Web has grown into a mass medium, which is perceived by most traditional newspapers as a very serious threat to their long-term existence. New media competition is not a foreign concept to newspapers, for the experience of real competition that could undercut the existing markets of the press has occurred frequently in the past. Initially, potential competition occurred, firstly, in the early 1920's with radio, and then, secondly with television in the 1950's (Fidler, 1997:133).

The Web, in contemporary society, seems to be a new threat to traditional media, even though few electronic publishers are making money on the Web. Current publications about the Web are profuse. Furthermore, copious exaggerated predictions and much 'hype' relating to the eventual outcome of newspapers in the future have been created. Parker (1998) states that the Web, like any other new technological development, has vast differences in the potential of the technology and its actual uses. Thus the end result, may be far from the fantastic predictions postulated previously. This phenomenon will be investigated further in chapter 4 of this paper titled "Reinvention of the Internet".

2.1.2.1 The history of newspaper competition from electronic media

During the golden age of print media, that is, the period from approximately 1890 - 1920, publishing entrepreneurs such as William Randolph Hearst, Joseph Pulitzer and Lord Northcliffe flourished and became well-known to their readers, as celebrities as well as world leaders on the political stage. Fidler (1997:141) believes that during those years, the publishers' power and influence were so pervasive that the inclination of major figures in the world of print, could make or break politicians and rally support for the publishers' personal causes.

After 1920 however, newspapers were forced to redefine their role with the introduction of a new, far more powerful mass medium called broadcast radio. Like the Internet of today, the development of low-cost radio receivers and electronic broadcast media created a great deal of anxiety, as well as excitement. Even then, people argued that printed newspapers were doomed to inevitable failure by the competition offered by the electronic media. However, in the early years, broadcast radio in fact had little effect on print publishers.

By the beginning of the 1930s, advertisers discovered that broadcast radio could deliver to a large national audience. Print publishers saw radio as a formidable competitor for advertising dollars, as advertisers eagerly spent their money on radio exposure (Fidler, 1997:187). As a result of the perceived threat from radio, many publishers revamped their formats and content, to broaden their newspaper appeal, and began experimenting with

special sections, departments and packages targeted at specific groups. Inclusion of weekend magazines, women's sections, children's pages, features pages and comics in print media flourished.

Reporting styles changed as well, and newspapers began expanding stories to provide more in-depth coverage than radio. Fiddler (1997:194) avers that during the 1930's and 1940's newspapers provided more background information and analysis than ever before. As a result, in-depth investigative journalism was considered as one of the most significant developments in the newspaper industry during the decade 1930-1940.

Shortly after World War II, newspapers were faced with yet another new and even more powerful electronic medium, in the form of television. Immediately television displaced radio as the customer preferred medium. Once again pundits predicted the death of the print media, but the demise did not materialise. By the early 1980's, most newspapers had once again undergone substantial changes in content, design and technology (Fidler 1997:198). Presently, however, print media professionals have conceded that no future redesigning, content improvement, or advanced colour press can be expected to displace electronic media. Thirty years ago, electronic media was confined to radio and broadcast television in the United States. Computers, cellular phones, lasers, fibre-optic networks, CD's, digital fax machines, and video cameras had not evolved, except in a primitive form in the realms of some research laboratories.

Today, a revolution brought on by the explosion in consumer on-line and Internet services, is unfolding for traditional publishers. Consumers and publishers are facing a quantum leap largely because the amount of information and other content that can be easily accessed from the Internet is phenomenal. Indeed, the quantity of production of data and sources of new knowledge on the Internet supercedes any predictions about the possibilities of the media. Undoubtedly, such vast areas of information and specialist knowledge offer many opportunities, as well as competition, specifically in the area of electronic publications.

Although newspapers and television moderately compete with each other for a share of the consumers' ever decreasing time, Elderkin (1996:67) believed that the multimedia arena is where newspapers and television may ultimately go "head to head" to determine superior power and strength.

2.1.2.2. The history of electronic publishing

Many newspapers have attempted to take advantage of the shift to a digital medium for several decades. Paul (1996:37) indicates that the first major change was in the shift from hot to cold type (electronic) production systems, which swept the newspaper industry worldwide. Electronic production systems effectively allowed newspapers to compile databases of the text that flowed through the production system, and the by-product was the electronic news archive. As a result of the new development of print-run data bases,

newspapers saw the potential of reselling access to information that had initially run in discardable paper form.

According to Paul (1996:39), various forms of electronic publishing have been in use for a number of years. Many cable systems have devoted at least one channel to a continuous scroll of news, weather and stocks which is in fact a primitive type of Teletex. Technological advances, declining costs, marketing initiatives and convenience account for electronic publishing becoming a mass medium. Electronic publishing offers users access to a vast library of information. Distance is no longer a barrier as users in small towns can dial up databases at any location, national or global.

The concept of electronic publishing is simple for in practice the pages of text and graphics are displayed on a television set or any other inexpensive screen. As the technology is relatively inexpensive and easy enough to use, mass diffusion is possible. Thus electronic publishing has become increasingly viable as a mass medium over time. The system can give people information they currently obtain from newspapers, magazines and books. Information is accessed quickly, conveniently and users are provided with vast information resources. The actual publishing function includes: deciding what content to provide, operating the computers that will hold the electronic pages and selling the service to consumers (Paul, 1996:39).

Taking cognisance of the above-mentioned developments, a number of companies began experimenting with a product called Videotex in the early 1980's (Fidler, 1997:114). The

intent of Videotex was to provide subscribers with electronic access to news, weather, sports, and a variety of services provided by the local newspaper. The concept of Videotex was somewhat similar to the contemporaneous Web-TV model. But the main difference lies in the access Web-TV has to databases around the world, for Videotex had access merely to a local newspaper database. Siegel, (1980:111) described the Videotex service as electronic information from a local newspaper's database, that would be broadcast on unused lines of the normal TV picture and displayed on any TV set equipped with a special adapter to read the information. From the inception, Videotex, in the USA, was viewed as a logical extension of traditional printed newspapers. Most publishers believed that the benefit of these services was the timely provision of news and information, in a thorough and more personal fashion. The assumption was that Videotex would become an up-to-the-minute newspaper, capable of providing a wealth of information not typically found in mainstream media. "This proved to be wishful thinking" (Fidler, 1997:151).

The overriding problem revealed initially, was that access to a database of general news, information and advertising was not nearly as appealing as having the ability to communicate with other subscribers. Fidler (1997:157) stated that nearly everyone involved in the project saw Videotex as an advertiser supported electronic newspaper, and not as an interpersonal communication medium.

Another serious problem with Videotex was the lack of precision in keeping information up to date. Despite the extensive effort and expenses incurred in covering neighbourhood

events, subscribers frequently found that the desired information was either out of date, or simply non-existent. For sports enthusiasts the breakdown in supplying important information was particularly disappointing. In general the service experienced difficulty in maintaining current scores and statistics for local high school and community teams. Even though volunteers were enlisted to provide coverage of local games, the results published by Videotex were generally unreliable. Furthermore, subscribers could obtain the specific information required more easily and more quickly from other sources (Hollander, 1994:31).

From the start, Videotex was a new technology looking for new markets. In 1983, during the start-up of Videotex, newspaper publishers posed the same questions that the press faces today: “how many customers want pushbutton access to information and what are they willing to pay? What is the proper audience for these services and what type of information is best suited to electronic dissemination in general?” (Fidler, 1997:156).

Notably, the predictions that the Videotex industry would grow dramatically in the 1980s, were similarly made about Web publishing. A conservative forecast by AT&T at that time estimated that as many as 7% of all U.S. households (8 million homes) would have Videotex terminals by 1990 (Siegel, 1980:153).

Hundreds of millions of dollars were spent on Videotex experiments in the USA in the mid 1980s, however, Videotex failed, not on account of hardware and software problems, but as a result of the lack of reader interest (Hollander, 1994:32). Consumers that used

the service, however, did so to communicate with each other over important community issues. There were seemingly few users who chose to search for news.

After the Videotex failure, several years passed before newspapers initiated aggressive participation in other electronic publishing avenues such as Bulletin Board Systems and commercial on-line services. By the beginning of the 1990s in the U.S., three major on-line services (Prodigy, CompuServe and America Online) began attracting a modest base of subscribers. Paul (1996:31) elaborated in his article entitled "2BW" (2 years before the Web, or about 1993) that most newspapers are motivated by a fear of being left behind. Hence the newspaper industry began experimenting with electronic publishing. Publishers had a choice of using Prodigy, CompuServe, or America Online, all three providing e-mail, chat forums, Internet access, file transfers, and electronic versions of popular newspapers and magazines.

Bulletin Boards have developed slowly in the USA since the first one started in Chicago in the late 1970s, providing an extremely efficient way for consumer, commercial and non-profit interest groups to share information. Philo (1995:5) contends that a Bulletin Board System (BBS) is simply an interactive information service that enables customers, via a personal computer and modem, to share information on related interests, exchange advice, and socialise while using PC based BBS software.

In effect the BBS are micro on-line services catering to a very diverse range of special interests. There are currently over 60 000 BBS in the United States and over 100 000

worldwide that are organised around a variety of content categories including news, entertainment, education, software, information services and adult entertainment (Philo, 1995:12). A BBS is typically accessed through a standard phone by calling a local number. Consequently, any BBS out of the consumer's local phone market would result in a long distance call which makes obtaining information somewhat expensive, especially if the call is beyond the local calling area. Today, however, many BBS systems are connected to the Internet and World Wide Web.

Another early form of electronic publishing evolved with the introduction of CD-ROM, which became popular in the early 1990s. The format of CD-ROM was used mainly in libraries and by researchers, as CD-ROM technology provides users with immediate access to the full texts of newspapers, magazines and encyclopaedias. Through his research, Stover (1991:103) found a number of newspapers producing CD-ROM versions including the *Wall Street Journal*, *Christian Science Monitor*, *Los Angeles Times*, *San Jose Mercury News* and the *Boston Globe*. As Stover (1991:103) indicates CD-ROM publishing is prohibitively expensive and updates were also a problem. Newspapers were compelled to update information monthly or quarterly, which was hardly a satisfactory lead-time. Shortages of images such as photos and electronic drawings on the CD-ROM files produced materials that were not particularly user-friendly, as the discs merely contained text from the original article.

In summary, by 1993 (pre Web) few newspapers were available via the computer. Those that were available were generally found on America Online, while the remainder

maintained their own Bulletin Board Systems. Some CD-ROM versions of newspapers were produced, mostly for prepaid on-line retrieval services, or for libraries. Clearly computers and more specifically the Internet were not seen as viable alternatives to reading the news in paper printed form and few consumers were excited enough by the new technology to embrace the product fully.

After 1995 however, the subsequent commercialisation of the Internet initiated an explosion in newspaper on-line services that totally reshaped the markets for news. Consumers swiftly sought electronic news as both a substitute and as a complement to the news in paper printed form.

As mentioned earlier, research in the field suggests that newspaper publishers perceive new competition of news from the electronic medium to be not only the most immediate, but also the most serious, systematic, long term threat to newspaper publishing to date (Outing, 1996e). The World Wide Web has seen “dramatic growth” (Dean Witter, 1995:1) during the last two years and the ability for anyone to become an information provider is easy with “low barriers to entry” (O’Reilly, 1996: 79). Phillips (1998:131) shows that in a time frame that marginally exceeds three years (1995-1998), more than 8000 Web sites have been built which are operated by print, radio, television, and non-traditional news organisations. Seybold (1995:8) believes that this current period in history is a crucial time for newspapers, but the role of newspapers in the future remains undefined as on-line communications are shaped around the traditional print form. Unfortunately, according to Seybold (1995:8), there are a few strategies for newspapers

to follow when entering the World Wide Web. While many newspapers are providing a home page, or Web site, in an effort to keep existing advertisers, there are varying degrees of transfer of material onto the World Wide Web. No clear path has been cut for the new emerging electronic expression of the news. Moreover, in the marketplace for traditional newspapers little change has occurred. Yet there is no doubt that the movement toward interactive newspapers is “growing like gangbusters” (Seybold, 1995:3). This revolution in on-line services has redefined the way consumers retrieve, sort, view, pay for and even read news. Hence the usage of the World Wide Web for the press may be classified as a discontinuous innovation.

2.1.3 Product characteristics that influence diffusion

All products that are new do not have an equal potential for consumer acceptance. Some products seem to become popular almost overnight, such as the Internet, while others take a very long time to gain acceptance, for example the application of Videotex.

Researchers have identified five product characteristics that seem to influence consumer acceptance of new products, namely relative advantage, compatibility, complexity, trialability, and observability (Schiffman & Kanuk, 1994:45).

These factors will now be investigated in more detail. Definitions of the precise activities will be delineated and a further assessment will be made of the exact role assumed in the marketplace by products that typify the typologies.

2.1.3.1 Relative advantage

The degree to which potential consumers perceive a new product as being superior to existing substitutes is its relative advantage (Rogers, 1995:78). The degree of relative advantage may be measured in economic terms, but social prestige, convenience and satisfaction are also important factors. Importantly, even if an innovation has a great relative advantage, the real advantages are inconsequential unless consumers perceive it to be so.

The Internet and on-line publications have certain advantages that supercede the features that printed editions of the newspaper offer. Firstly, one can view “classifieds” on-line, which is an environment that is ideal for “classifieds”. Instead of progressing page by page, column by column as must be done in the print product, on-line consumers can search for advertisements quickly and easily. Anderson, Brannigan and Outing (1996:123), found that automated request queries could be set up and personalised to match a person’s interests and desires. Thereafter, news was sent to the reader as soon as he/she entered the database. For example a person looking for a 1965 VW Beetle, could set up a request for information. Consequently, when someone placed an advertisement in the newspapers’ on-line database, the response to the advertisement, for the 1965 VW Beetle would be immediate. William Bass, (in Albers, 1997:47), a senior analyst for Forester Research predicted that by the end of 2001, newspapers will lose 40% of their property advertising, 30% of help wanted and 20% of automotive advertising, to on-line “classifieds”.

In a 1997 survey (in NUA, 1997), the William Olsten Centre for Workforce Strategies found that one in five companies in North America use the Internet for on-line recruiting. One example of the way on-line employment classifieds have evolved is in Online Career Centre (Anderson *et al* 1996:16), a national keyword-searchable employment database that claims to be the most frequently accessed on-line recruitment service. The database for Online Career Centre has approximately 18 000 job listings, 4000 employers using the service and a total of 80 000 individual visitors daily. Other services in the employment area include Career Mosaic, Intellimatch, The Monster Board, Interactive search, Virtual Job Fair, Career Central and CareerPath. The Market for automobile classified advertisements tends to be more local in nature, and thus the local newspaper is the logical place for consumers to refer to when seeking to purchase a car. However Fitzgerald (1996:4) stated that auto traders are aggressively entering the on-line world. In South Africa the successful McCarthy retail group has established on-line classifieds for second hand vehicles. The on-line medium provides McCarthy retail with the freedom to provide content length, especially in the area of images.

Another compelling reason for consumers to embrace on-line newspapers is the connectivity and interactivity the medium allows against the static nature of traditional printed news. Electronic mail (e-mail) has emerged as the most commonly used function of the Internet and allows users a quick, efficient and cost effective means of communication. An increasingly interconnected world where content flows easily will alter the way consumers and publishers behave. Philo (1995:13) believed that for

publishers this connectivity will breathe new life into mature franchises, much like the VCR and CD player invigorated the world of motion pictures as well as the music industry in the 1980s.

Connectivity provides unprecedented opportunities for reader involvement, the creation of electronic communities, and electronic commerce. Increasingly, newspapers are experimenting with various interactive services to "enhance reader involvement with the franchise" (Philo, 1995:16). In effect, newspapers can keep users' attention focused on their Web site by providing more interactive services.

Philo (1995:28) states that once local usage exceeds 30% for the on-line edition, some very interesting newspaper sponsored services become practical, such as reader polls on local issues. He also depicts a scenario where the newspaper may advertise a poll via the on-line service, and then publish the results in the paper the next day. Or the newspaper could arrange and moderate an on-line "town meeting" between readers and elected officials, again, with the results in the next day's newspaper.

Another unique feature of the newspaper Web-site is the ability that newspapers possess to publish instantaneously, without having to wait for subsequent events. For example (Brooks, 1997), cited the Dallas Morning News which published the alleged confession by Oklahoma City bombing suspect Timothy Mcveigh on its Web-site which was almost instantaneous reporting, rather than atypical delayed communication in the Saturday morning paper. Within minutes of the announcement of Timothy Mcveigh's conviction

on 11 federal counts related to the Oklahoma bombing, many newspaper Web-sites had the verdict on-line. Although TV and radio stations also announced the incident directly, Web-sites offered multimedia archives and far more detailed coverage than radio, TV or, finally even print itself could render (Kramer, 1997).

A further advantage that the Web has, in advance of all other media, is that consumers receive customised news at any time of the day or night. Consumers no longer have to wait for the newspaper to be delivered or for the broadcasting of the 6 o'clock news. Instead, information is stored in a digital form, at various sites on the Internet. Thereafter the consumer may access the publication, when he/she is ready for the personalised product. Although major news archives such as Lexis have been available for years, for a fee, consumers currently have a wide choice of news on the Web for little or no cost. Furthermore they can access the latest news from the comfort of their homes (Hume, 1995).

Hence the relative advantage of on-line newspapers versus traditional printed news is clearly great and the examples tracing movements of customers on the Web, scenarios in publishing and the history of the electronic media, cited above illustrate the claims made.

2.1.3.2 Compatibility

The degree to which potential consumers feel that a product is consistent with their present needs, values, and practices is a measure of its compatibility (Schiffman &

Kanuk, 1994:156). According to Rogers (1995:97), an idea that is incompatible with the values and norms of a social system will not be adopted as rapidly as an innovation that is compatible. The adoption of an incompatible innovation often requires the prior adoption of a new value system which is a relatively slow process (Rogers, 1995:112). The fact that most on-line newspapers take their names from the tried and trusted print parent lends a great deal of compatibility to the product. In many instances, on-line publishers retain similar graphics, articles, cartoons and journalists. Thus the two editions of the newspaper, the on-line and the printed forms, are evidently synergised, as much as possible.

D'Amico (1996:18) finds a shift in the focus from mass-producing goods and services such as traditional newspapers to customising products, as well as personalised newspapers. For example, *The Farm Journal*, a Philadelphia-based print publication with a subscriber base of 800 000, prints an average of 7000 to 10 000 different editions each month, with targeted articles and advertisements based on each farmer's personal customer profile. To achieve the production of a personalised edition of a publication, Web newspapers need to conduct more research to find more accurate profiles of their customers. Hence, over a period of time, the newspaper may then gain a greater understanding of the customer's preferences, and improve the offerings made to the readership.

Rogers (1996:25) believed that directed or customised news, in the future, will compete with local newspapers. However, this phenomenon does not necessarily mean the

imminent demise of newspapers. Rogers (1996:25) argues that even though directed news offers something new, news sites on the Web can never acquire the newspapers' strongest asset, which is the established and trusted brand name. The brand name enables newspapers to exercise leverage that grants credibility on the Internet.

In many ways, the Internet has bound local communities together even as societies undergo economic change. Just because a person moves to a new locale, he/she does not leave behind the news he/she used to read. With the immediacy of the Web, readers may be anywhere in the world and still obtain access to a personal, local news site. *It's the Future* (1996) maintains that the Internet will have developed into a fully immersed 3D world, by the year 2010. The 'virtual' world of computerised images may be modelled on the real world – cities, towns, houses, trees, lakes and mountains. Or instead, there may be the creation of a brand new topography. Either way a gigantic New World will be constructed in cyberspace. The ultimate evolution of a 3D world will open up a vast array of opportunities. Here, Virtual Tourism may command excessive and inordinate business. Thus, it is likely that a long-term goal for information providers will be to create communities that attract consumers by making them feel at home in 'virtual' reality.

Whether the Internet actually develops into a 3D medium or not, the technology is here to stay. The terrain occupied by the Internet will most likely grow in terms of usage and there will be the increased production of computer software, as well as hardware. Newspapers, which were once the community focus, need to examine seriously the

possibility of creating digital communities. It is doubtful that the Web will replace newspapers in the short term, but publishers need to realise that there will be no capital loss if newspapers retain a similar market share, in a new form on the Web (Outing 1996b).

2.1.3.3 Complexity

Complexity, is the degree to which a new product is difficult to understand or use. Largely, the complexity of a product affects product acceptance (Schiffman & Kanuk, 1994:149). Some innovations are readily understood by most members of a social system but other products are more complicated and will be adopted by the general public more slowly (Rogers, 1995:116). Clearly, if the use of a product demands very simple understandings, then the product is more likely to be accepted. The issue of complexity is especially important when manufacturers attempt to gain market acceptance for technologically advanced consumer products (Schiffman & Kanuk, 1994:159). In many ways, on-line newspapers seek to eliminate the time consuming searches in which consumers have to engage to find various types of information. For example, users may adopt the so-called "push technologies". All day long, news and information are pushed onto the user at their desktop. One method of push is in the form of e-mail, which is a system that updates the user, usually several times a day. In this way, the user has instant access to the requested information. Thus the need to search for the required information is eliminated.

Toner (1997:45) finds that push technology is of particular interest to people who do not want to wait for the Web. Pushing on-line content out to the consumer seems to be what more people require. Pushing versus pulling is really the difference between having a home delivery of the newspaper, or going down to the corner newsstand to purchase the paper.

Toner further elaborates on three ways to use push technology:

- through e-mail, where text or multimedia messages are sent directly to a user's electronic in-box;
- by Internet-broadcast systems such as PointCast, where software passively displays news and advertising on idle computers;
- or draw-down tools, such as FreeLoader and WebEx, that automatically download multimedia content to a user's hard drive.

Toner (1997:46) states that Mercury Mail, another push technology, sends 325 000 subscribers more than 1 million e-mails daily. The content of the e-mails range from news and sports summaries to selected stock quotes, horoscopes and television lists. There is little doubt that pushing news to the consumer is an attractive way for the newspaper to keep customers interested. Providing a HyperText Markup Link (HTML) e-mail version of the newspaper's Web site front page, with links to additional stories, is a device that certainly makes usage simpler and more convenient for the customer.

The endeavor to make Internet usage even easier produced two major developments in the period from 1989 to 1994: Mosaic and the World Wide Web. Fidler (1997:190) stated

that without such technologies, or their equivalents, widespread commercialisation of the Internet would not have occurred. Mosaic, developed in 1992 by a small group of software developers at the University of Illinois's National Center for Supercomputing (NCSA), is a dynamic graphical user interface (GUI) that greatly facilitates the browsing of Internet databases. Approximately a year after the development of Mosaic, free copies of the software were circulated throughout the Internet. Within months, Mosaic-based pages were widely used on the Internet. Mosaic's appeal was a simplistic approach, which enabled nearly every user to create an easy to follow visual road map to the Web.

The Web is a graphical, easy to use, client-server software-based technology for end users to access the Internet. Philo (1995:31) maintains that the unique feature of the Web is the ability that the user acquires to hyper-link a word, icon, button, or picture to any part of a particular Web-site, anywhere in the world. Graphical, point and click browsers are employed and the user is not required to adopt computer commands, in order to navigate the Internet. As a result of the Web's instantaneous popularity, on line networks, such as America Online, Prodigy, and CompuServe, were forced to offer Web access to their customers. Prior to 1996 subscribers to the on-line networks were entitled to retrieve information or use e-mail within the confines of the service they subscribed to for on-line communication. Once the proprietary walls came down, however, and subscribers had Web access, they had worldwide access to hundreds and thousands of sites. Evidently the issue of complexity has largely been negated by the development of the World Wide Web and the average person is able to use the service with relative ease.

2.1.3.4 Trialability

Trialability refers to the degree to which a new product is capable of being tried on a limited basis (Schiffman & Kanuk, 1994:213). According to Rogers (1995:196), new ideas that may be tried on the installment plan will generally be adopted more quickly than innovations that are not divisible. Furthermore, the greater the opportunity to try a new product, the easier consumer evaluation becomes and ultimately, the likelihood increases for the customer to actually purchase the product. Because a computer program cannot be packaged in a smaller size, many computer software companies offer free working models of their latest software to encourage computer users to try the program and subsequently buy the program. In the case of on-line newspapers via the Internet, as has been illustrated, trialability did not present a problem for most of the information was freely available in an easy to use format.

To make the Web profitable, many newspapers adopt the best strategy used by traditional press corporates, that is letting advertisers pay the cost of production (in this instance the setting up and maintaining of the Web sites) through the sale of advertising space. Generally the policy eliminates subscription fees for readers, which is an attraction to potential readership. Though most newspapers do not currently charge a subscription fee for their on-line product, Peterson (1996:13) states that eventually, newspaper sponsored information on the Internet will be available exclusively to paying subscribers, who would use access passwords. He believes that a mass of users may develop the habit of obtaining their information on-line and that publishers could charge users for the service.

Until such time as charges are implemented, however, consumers are virtually able to try the product on an unlimited basis.

2.1.3.5 Observability

Observability (or communicability) is the ease with which a product's benefits or attributes can be observed, imagined, or described to potential consumers (Schiffman & Kanuk, 1994:216). Products that have a high degree of social visibility, such as the Internet, are more easily diffused than products that are used in private, such as a new type of toothbrush. The rapid growth of the Internet and the enormous hype surrounding its launch, as well as the Web's subsequent growth indicates that word-of-mouth referrals have been extremely high. In addition, one cannot watch television without advertisements directing consumers to a particular brand's Web site. Indeed on the radio, disc jockeys make constant reference to their personal Web sites, thus diffusing the innovation to impressionable target audiences, such as the youth.

The Internet seemingly assumes the configuration of a wave that is swamping business and life in general as it is the fastest growing mass medium in history. Radio required 38 years to reach a mass audience of 50 million households worldwide; television needed 13 years and mass usage of cable television was implemented in 10 years. However, the Internet spread to a mass audience in only 5 years (Dean Witter Research, 1997:12).

The Internet has, by virtue of its topical nature, become a 'buzz-word' in popular culture, and its perceived observability is, therefore, extremely high.

It is important to reiterate that each of these product attributes - relative advantage, compatibility, complexity, trialability and observability - depends on consumer perception. A product that is perceived as having a strong relative advantage, as fulfilling present needs and values, as easy to try on a limited basis, and as simple to understand and to see, is more likely to be purchased than a product that is not viewed in this way. (Schiffman & Kanuk, 1994:219).

A related aspect of the diffusion of electronic newspapers over the Internet, also warrants an examination, as does the potential threat or advantages that the diffusion of electronic newspapers pose for traditional printed newspapers.

2.1.4 Diffusion of electronic newspapers over the Internet

2.1.4.1 Electronic publishing on the Internet

The electronic newspaper today is similar to television in the 1940s and 1950s in that it is a medium trying to find itself (Elderkin, 1996:26). Clearly, Elderkin, in his reflection, refers to the aspect where the electronic newspaper is somewhat undefined in its developmental stages for as newspapers become electronic in a number of overlapping stages, each stage becomes more powerful and sophisticated than the previous one. He

believes the first stage is here now, with electronic database newspapers that have evolved, which may be accessed through the Web. Though Elderkin (1996:37) argues that no one can predict the next stages, Negroponce (1995:90) postulates that the stages may include:

- broadcast newspapers or newspapers that broadcast to a receiving device over the airwaves;
- and virtual newspapers where a user would use a virtual reality headpiece to look at the newspaper.

Because the above- mentioned stages are many years away from happening, Elderkin (1995:172) contends that in the near future, notepad computers and palmtops will be used increasingly to carry text. These small-size units can potentially carry an entire library of information and Elderkin (1995:177) believes the print industry will eventually evolve into this format.

In 1995, Web usage began in earnest, particularly in the USA (Forbait, 1995). However, problems continued to arise with the medium, as an alternative to print. Print newspapers, in comparison to their electronic counterparts, are much easier to use. For example, Crosbie (1996:16) states that once the consumer subscribes to the paper, news arrives on the doorstep each day. On the other hand, to access newspapers electronically, the consumer has to boot up a computer, dial an Internet service provider, run a browser program such as Netscape, and visit a Uniform Resource Locator (URL) to reach the newspaper's site. Then, for the consumer to retrieve an electronic newspaper there is the need to wait as each page, photo, and graphic downloads at various speeds. In addition,

the downloading ties up the household phone line, for an extended time. Moreover, the user has to pay an access charge for the privilege.

Though electronic newspapers could eventually take over from print, D'Amico (1996:19) states that the electronic form of the newspaper will never truly replace print until the electronic newspapers are fully portable. The news on a home computer screen is limited, as the user cannot readily carry the electronic form on the train, plane, bus, or to the bathroom. It is possible to download information from the Internet via cellular telephone, but the drawback is the very limited screen size and difficulty of reading the text. If the form of the electronic download is more readily transportable and if technology in the smaller forms of powerful computers becomes cheaper for the general public, newspapers will have to be in a position to provide information in portable personal computer format to maintain circulation.

Hollander (1994:31) believes that a sense of connection is needed and electronic newspapers offer an opportunity to bring people together in ways similar to talk radio. Newspapers can take advantage of talk radio's instant communication and interaction by offering a similar forum on the Web.

Another area that newspaper publishers should be aware of, is that of sound and video. Peterson (1996:14) finds that sound and video are becoming significant issues in terms of competition for newspapers. For example, he indicates that the Associated Press is beginning to supply stories, including audio and video, to their membership. Because

people would rather watch video than read, television stations are ahead of newspapers in the area of providing people with a medium which does not demand a higher form of literacy and understanding.

SABCnews.com, the on-line news site of the South African Broadcasting Corporation was launched in July 2000 and as is to be expected, video presentation of stories is available on demand at the web site. It is very easy for SABCnews.com to provide the video material, which already exists, but, traditional print news suppliers have to create this material which is not an area of traditional strength for newspapers.

On account of slow access speeds to the Web, however, little video material is presented today. As access speeds increase, the expectation is that video will be used extensively. In fact, Peterson (1996:14) believes that video will assume a significant role in the presentation on the Web in the future. He believes that news photographers will carry video cameras for the smaller newspapers and a full video staff will serve the larger newspapers. The challenge for newspapers, Peterson (1996:14) states will be to learn to translate print stories into video.

Philo (1995:41) agrees, but views the mass market as affordable only through broadband connections into the home. He views this as the only way to enhance the on-line industry's penetration and usage rates. He states that enhancement will happen in the USA by the early part of the 21st century. As personal computers are connected to broadband networks deployed by the telephone and cable industries, Internet and Web

technologies will use the increased bandwidth to provide voice and video-augmentation, and finally, provide two way interactive services (Philo, 1995:41).

The shift from paper to electronics impacts on how individuals access, view, sort, and most importantly, pay for material needed. Bort (1995:56) states that newspaper articles are limited because there is only limited space available. With Web technology, however, there is no limitation. Thus a company can construct a message that is several layers deep, with animated graphics, sound and even full motion video.

SABCnews.com is an excellent example of this phenomenon. At first glance the web site appears fairly basic for there is limited editorial content on the lead stories of the day. Progressing down into the site, however, reveals an extended search facility where news from South Africa, and the rest of Africa and the world can be accessed. In addition, there are articles on sport, politics, economy and entertainment available for perusal. If required, readers can also access audio and video clips of the main stories. However, the problem with using these features is the slow speed of access.

Other problems with electronic publishing, which Harper (1996) identifies, are evident in the great number of American newspapers offering an on-line edition that is simply a rendition of the printed version, referred to as “shovelware” on the Internet. Kline (1996) concurs and finds that hundreds of newspapers err in simply placing content on-line. According to McAdams (1998), news is a commodity that on-line users may find in many places. Thus if one publishes news on-line, one should ask whether that news is, in

any way different from the other sources. According to McAdams (1998), this is not so in most cases. According to Outing (1996f), simply putting the newspapers' content online is not enough. To entice people back to a news site again, on-line newspapers need to offer more than a copy of the printed version of the paper. In short, consumers have to find information on-line that simply cannot be found by the reader picking up a newspaper. Outing (1996d), however, states that shovelware can be positive too. Newspapers that have chosen to create niche Web-sites, or offer part of the content of the whole newspaper, invariably encounter the customer inquiry, "why don't you have the news on-line? Where are the comics? Where's the crossword?" Clearly consumers expect the full contents of the paper to be on-line and are disappointed if they find exclusions (Outing, 1996d).

While the public enjoys a free wealth of information, news and entertainment on the Internet, publishers currently ponder whether the revenue streams will ever support Internet publishing. Outing (1997:41) predicts a backlash, and the discontinuation of Web-sites that are unprofitable for publishers. Kirsner (1997) concurs and predicted that at the end of 1997 the industry would enter a period of consolidation. Hence publishers would look for efficiencies of scale and staff reductions at the end of the decade. This has proven to be true in many instances.

Lorek (1999:3) finds that over 90% of the more than 800 Web sites run by U.S. newspaper companies incurred capital losses in 1996. With the exception of a few local

Web-sites, such as Boston.com and the San Jose Mercury Centre, local sites did not receive the traffic nor the advertisements needed to earn a profit.

According to Kirsner (1997), the days of excessive spending are over and the reality of potential loss on the Web for publishers is apparent. Outing (1997) believes the crux of the problem is that the emerging business model on the Web requires publishers to give away content in order to attract a sufficient number of viewers who, in turn, attract advertisers.

Kirsner (1997) concurs, stating that the core revenue for on-line newspapers at this stage is banner advertising, sponsored packages, classifieds, Internet access and pay-per-story archives.

Further, Kirsner (1997) states that the industry will continue to rely on advertising for most of their revenue, but reliance on the advertiser will gradually diminish as on-line transactions become commonplace. When consumers start purchasing books, air tickets, life insurance and cars on-line, publishers will levy a small commission on these transactions in order to make money.

The amount an electronic publication is able to charge for advertising space is directly proportional to the audience they are able to deliver. At present, newspaper circulation is easy to track. By counting the number of copies printed and delivered, minus the returns, these numbers can easily be audited and verified by newspaper auditing firms. Electronic

newspapers however, require more detailed and sophisticated methods of tracing patterns of usage. Whether measurement is made in terms of hits, page views, or click through, Web site traffic is what determines how much a site can charge for advertising. In South Africa, ABIS, the Audit Bureau of Internet Circulation has attempted to standardise measurement of Internet access. This has successfully leveled the playing fields for Internet publications and advertisers can accurately calculate the number of people they are reaching.

In the early development of the Internet, financial gains from the Web were made by the technology companies that sold essential software and computer hardware, as well as from telecommunications companies, which provided Internet access for consumers and high-speed lines for information providers. Fidler (1997:93) states that, to date, very few individuals or companies that publish on the Web benefit financially.

Rowland (1996) concurs, and asserts that with the exception of search engines, CD shops and pornographers, few Web-sites are making money. He feels the majority of people find the Web too expensive for computer hardware, too time-consuming and too fragmented for the average consumer to get excited.

In contrast, a research report by Dataquest ,
(http://www.digitledge.org/monthly/1999_01/dataquest.html), shows that revenues generated by daily American newspaper Web-sites have increased from \$34.1 million in 1996 to \$203 million in 1998. The substantial increase during these three years proves

that newspapers are finding an audience with advertisers and viewers. Newspaper companies aren't the only ones enjoying a huge upswing in on-line advertising revenue. The Internet Advertising Bureau stated that total on-line advertising revenue in the U.S.A exceeded \$1 billion for 1998, up from \$906 million in 1997 and \$206.5 million in 1996. Latest figures indicate that in 2000, \$2.1 billion was spent on Internet advertising.

Outing (1996a) states that 1995 was the year in which newspapers went on-line and this became the common trend, as the Web was clearly the on-line publishing platform of choice. While it presents a threat to newspapers, the trend created by the new technology is unlikely to change.

2.1.4.2 The Web threat to newspapers

Almost half a century ago, television was in its infancy and a new breed of entrepreneur began to experiment with the new medium. Although the television programs were little more than radio with pictures, the development of a far more sophisticated medium rapidly evolved. Radio did not die, but television ultimately undermined radio, curbed its growth, and initiated a new highly complex communications and advertising medium. Eager (1995:66) believed a similar scenario could unfold on-line.

The survey conducted by Editor & Publisher in North America in 1996, suggests that nearly half of all American newspaper executives feel that their papers could be harmed by Internet based competition. Another study from Editor and Publisher Interactive

(1996) found 45% of the U.S.A newspaper publishers, editors and advertising directors fear the long-term impact of the Internet. More than 30% polled believed that the Internet was the biggest reason that print newspaper companies would be less profitable in the future and that the Internet would be the biggest single competitor in ten years or less.

Accordingly, in yet another survey, conducted by United Press International (1998), 80% of computer users believe that during the next five years the Internet will eclipse print newspapers as a significant source of daily news and information. The same audience felt a greater sense of trust in the accuracy of the information they obtained on-line than the information they could obtain from other sources. However, the study indicates that they did not trust on-line advertising.

2.1.4.3 The Web complement to newspapers

An increasingly interconnected world, where content flows easily, will alter the way consumers and publishers behave (Philo, 1995:23). Connectivity provides unprecedented opportunities for reader involvement, the creation of electronic communities, and electronic commerce. Increasingly, newspapers are experimenting with various interactive services to enhance reader involvement with the franchise. For instance, netassets (<http://www.netassets.co.za>) in South Africa allows readers to personalise their news, which is then sent to subscribers' computer desktops on a daily basis. The personally designed email document contains news that they have chosen to read.

One unique feature of the newspaper Web-site is the ability to publish instantaneously. Thus the producer of the news on-line does not have to wait for subsequent events and a newspaper is able to preempt a Saturday morning story on-line on Friday, if the timing is right. Newspapers on-line eliminate the need to wait for the Saturday morning edition. In the future, print editors will have difficulty keeping their on-line editors from breaking stories on their Web-sites until the printed edition is available on the street for sale. Many newspapers, however, have decided not to compete with themselves, choosing instead to make the electronic version available at roughly the same time as the printed version. Some publishers believe that newspapers need to preempt themselves frequently and until they do, there will not be a commensurate incentive for readers to turn on the on-line product (Parker, 1998).

Not only can newspapers find news on-line within minutes of the event; they can also use the Internet to share their information with affiliates. There are efforts currently underway to use the Internet as a means of sharing stories among newspapers, which could have the effect of eliminating the need for costly member organisations such as Associated Press, Reuters and United Press International. Virtual Wire is an example of this sort of service and it offers members shared information (Seybold, 1995).

A study by Runett (1998), found that a presence on the Web in some cases leads to more print subscriptions and lowers the acquisition costs for new readers. The study also showed that newspapers suffer less from loss of markets, through the competition offered

by the Internet, than television did. In a Roper Starch Worldwide study conducted for America Online (http://www.digitledge.org/monthly/1999_01/notebook.html), 83% of home Internet users dedicate the same time to reading print newspapers that they did before going on-line. In comparison, 43% said that they watched more TV prior to using the Net. Finally, some newspaper readership is lost, according to these reports, but to a much smaller degree than originally predicted.

Presstime magazine (Access as an incentive, 1996:18) stated that one way to attract subscribers is to offer something that they want. It follows that providing Internet access to newspaper subscribers is one means of attracting and keeping subscribers. A number of newspapers in the United States offer this service, including the Arlington Texas *Star-Telegram*. Since the new program started in June 1996, thousands of upgrades have been accomplished, and hundreds of new subscriptions have been accepted (*Presstime*, 1996). In a similar promotion, Journal Newspapers Inc., Fairfax, VA., began offering free Internet access with one-year subscriptions in mid-October 1996. In 2001 these papers have over twenty thousand paid print subscribers obtaining free Internet access.

Though most newspapers do not currently charge a subscription fee for their on-line product, Peterson (1996:14) stated that eventually, newspaper-sponsored information on the Internet will be available only to paying subscribers using access passwords. Bernstein (1996:45) found several information providers who currently charge for their services and are apparently doing well. Bernstein cites the *Wall Street Journal* as possessing approximately 32 000 subscriptions to their interactive edition. Of these,

about 60% pay the full price of \$49 per year, while the rest pay an additional \$29 per year in addition to their print subscriptions.

Since the diffusion appears to be pervasive, the channels of communication which greatly influence the speed and effectiveness of this diffusion must also be addressed. Hence the efficient flow of communication channels will be discussed.

2.2 THE CHANNELS OF COMMUNICATION

When an innovation exists, communication must take place if the innovation is to spread. Diffusion is a particular type of communication in which the message content that is exchanged is concerned with a new idea. How quickly an innovation spreads through a market depends to a great extent on communications between the marketer and consumers, as well as communication among consumers (e.g. word of mouth communication). According to Rogers (1995:176), mass media channels are often the most rapid and efficient means of informing an audience of potential adopters about the existence of an innovation. On the other hand, interpersonal channels are more effective in persuading an individual to accept a new idea, especially if the interpersonal channel links two or more individuals who are similar in socio-economic status, education, or other important ways (Rogers, 1995:187). Interpersonal channels involve a face to face exchange between two or more individuals.

In South Africa, Internet usage is predominant among individuals who earn above average incomes. Internet users are mainly individuals who can afford a home computer and modem, and/or who have access to the Internet at work. Also the growth of Internet cafes in South Africa has greatly facilitated usage of the Internet. Many South Africans are aware of the Internet, especially the youth, and much like cellular phones, the Internet is a highly 'aspirational' innovation. The Internet has benefited from both mass-market exposure through its pervasiveness in most sectors of business and from word of mouth communication, because it has become the 'buzz word' of the late 90s.

2.2.1 The explosive growth of the Internet

The Internet (initially called ARPANET) was launched in 1969 by the United States military. The purpose was to have a communications system that did not have a central nerve centre, and thus could not easily be destroyed by a nuclear attack. The Internet was designed in such a way that if a message was sent, but blocked on the way to its destination, the Internet would keep searching until it found a way around the block (<http://www.nua.ie>). During the 1970's, the Internet grew slowly and was, for the most part used by scientists and researchers to communicate with each other and transfer information.

In 1982 a similar network, Eunet was established in Europe. By 1984 the Japanese network, Unix was established. With the American, European, and Japanese networks in place, as well as the American National Science Foundation's five networked

supercomputing centres, tremendous growth resulted. For example, Forbairt (1995) states that in February 1986, there were 2000 host computers. However, by November 1986 there were over 5000 host computers. Fidler (1997) contends that at the end of 1989, more than three million computers were connected via 5000 hubs in 26 countries.

A turning point in the commercial use of the Internet was seen in 1991, with the formation of the Commercial Internet Exchange (CIX), a group of commercial Internet providers. The formation of the CIX established co-operative agreements to let users communicate with others, regardless of which networks provided their network connection. As a result, numerous colleges around the world were connected to the Internet, as well as users on some of the proprietary networks such as CompuServe, America Online and Prodigy (<http://www.nua.ie>). By 1995 an estimated 30 million people in more than 100 countries had access to the Internet, an increase of 27 million users in just 5 years (<http://www.bannermedia.com/trend.html>).

Though the original use of the Internet was to facilitate the electronic exchange of research, programming, mail and other information among educators and researchers, the service evolved in ways that no one planned or expected. The dominant interest of most Internet users is the free exchange of ideas and much of the exchange has actualized through the use of e-mail. The e-mail service is still the most widely used option on the Internet as it is highly efficient, speedy and an inexpensive means of communicating (<http://www.blue-cat.com/bcat/article>).

In 1992, the Switzerland based CERN Research institute introduced the World Wide Web, sparking a flood of new users to this medium. As a result of the introduction of the Web, host computers on the Internet reached a staggering 6.6 million by July 1995, with 63% located in the United States (<http://www.nua.ie>). The Web however is not the Internet. The Web is simply a tool that runs on top of the Internet, effectively providing the end user with a very 'friendly' graphical user interface. The Web is the multimedia section of the Internet and although sound and video are used increasingly, in most cases the download to a computer is very slow. Improvements to the system are constantly accomplished. However, developments in technology will require a number of years before the Web becomes a truly multimedia environment, for reasons discussed earlier in the study.

Software, commonly referred to as a browser, is required to access the Web from a computer. A physical network connection is required from the computer where the end user is working to a host computer on the Internet. Once this connection is established the user simply points (with the mouse) and clicks to get what he/she wants.

Presently, the primary vehicle for interactivity is the Internet, which is supported by a worldwide network of computers based on common software and communications standards. Although many of these technologies have existed for over 25 years, Philo (1995:21) notes that only recently has the Internet been embraced by a wide variety of companies. Weber (1995:16) stated that in 1991, there was disbelief that networked information and a commercialised Internet would eventuate. However, the Internet

technology did transpire and Weber describes this paradigm shift from “Old World” or the traditional print based medium, to “New World” or on-line publishing.

The Internet and Web have been well entrenched and will continue to grow in its diversity of services (<http://www.nua.ie>).

Currently a variety of goods and services can be purchased via the Internet, including items ranging from automobiles to airline tickets. New services are constantly added, for example, in South Africa, central government statistics are available over the Internet and, in addition, customers can also select to do most of their banking over the Internet.

As discussed earlier in the paper, the unique feature of the Web is the ability to Hyper-link a word, icon, button, or picture to any other part of a document on a Web-site, anywhere in the world. This can be done using a graphical, point and click browser, without the user having to know computer commands in order to navigate through the Internet. This greatly enhances the ease of diffusion of the innovation.

The Internet is metaphorically like a wave that is sweeping all before it and the power of the technology is expressed in the entry made into so many domains of human existence in the 21st century. Communication of the innovation is facilitated by its all-pervasive nature.

The next section will look at the social system within which the innovation diffuses, and how the norms, values and beliefs of this system impact on the successful diffusion of the innovation.

2.3 THE SOCIAL SYSTEM

The diffusion of a new product usually takes place in a social setting - frequently referred to as a social system. A social system is a physical, social, or cultural environment to which people belong and within which they function. The orientation of a social system with its own special values or norms, is likely to influence the acceptance or rejection of new products. If a social system is modern in orientation, the acceptance of innovations is likely to be high. In contrast, if a social system is traditional in orientation, innovations that are perceived as radical or as infringements on established customs are likely to be avoided (Schiffman & Kanuk, 1994:222). The orientation of a social system as either modern or traditional may be national in scope and influences members of an entire society, or may exist at the local level and influence only those who live in a specific community. The key point is that a social system's orientation is the climate in which marketers must operate in order to gain acceptance for their new products.

According to Rogers (1995:198), an obvious principle of human communication is that the transfer of ideas occurs most frequently between two individuals who are similar or homophilous. Homophily is the degree to which two or more individuals who interact are similar in certain attributes, such as beliefs, education, social status and likewise in

other related areas of interaction. Homophily occurs because similar individuals belong to the same groups, live or work near each other and share the same interests (Rogers, 1995:213). According to Rogers (1995:216), more effective communication occurs when two or more individuals are homophilous. When they share common meanings, a mutual subcultural language and are alike in personal and social characteristics, the communication of new ideas is likely to have greater effects in terms of knowledge gain, attitude formation and change, and overt behaviour change. When homophily is present, communication is likely to be rewarding to both participants in the process (Rogers, 1995, 222).

2.3.1 Internet users in South Africa

The vast majority of Internet users in South Africa fall into Living Standards Measure group 8, a market segmentation method developed by SAARF (South African Advertising Research Foundation). Living Standards Measures (LSM's) are based on the annual All Media and Product Survey (AMPS) and were developed in response to marketers' needs in the 1980s for segmentation that would eliminate the need to racially classify a consumer. However, on its own, the AMPS Living Standards Measure is not a lifestyle typology or psychographic segmentation tool. It is simply a robust indicator of the principal axis of the South African consumer market - an axis or index which is essentially a reflection or measure of standard of living, wealth or affluence. Nevertheless, when LSM groups are cross-tabulated with psychographic and lifestyle data from other surveys, very useful insights can be gained.

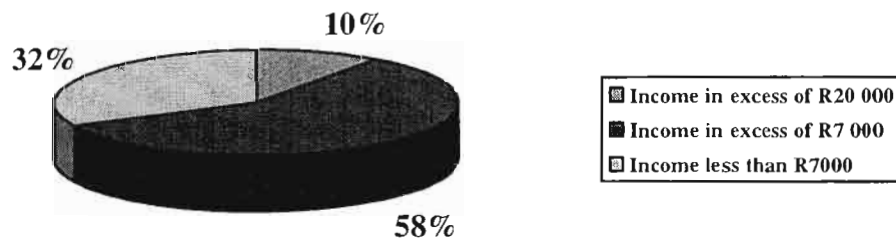
Thus it is from this information, cross tabulated with South African Consumerscope, an Eskom Omni Panel study, that we will determine the characteristics of the social system for Internet users.

2.3.1.1 Socio-economic characteristics:

Living Standards Measure (LSM) 8 consumers are quite predictably the most economically active consumers in South Africa and also predictably, the group is 80% white. Sixty one percent of all consumers in this group are between the ages of 35 – 49 years and 50% speak Afrikaans while 46% speak English (AMPS, 1999).

Employment is very high in this group (63%), with 23% being housewives and 13% students. The balance of the group is either retired or disabled. Ten percent of the group have an average gross monthly household income in excess of R20 000 and 58% have an average monthly household income of over R7000. Average household income in LSM 8 is R10 012 (AMPS, 1999).

FIGURE 1. Monthly gross income amongst LSM 8 consumers

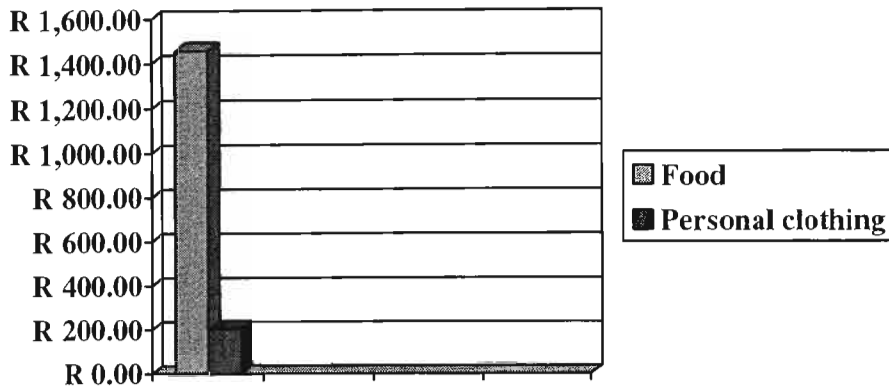


AMPS 1999.

Eighty four percent of LSM group 8 have personal use of a motor vehicle and 98% of households have a motor vehicle. High home and vehicle ownership amongst this group means that insurances for these possessions are necessary and 67% claim to have household insurance and 69% vehicle insurance.

On average, R1 452.97 is spent monthly on food and individuals spend R204, 22 on personal clothing items.

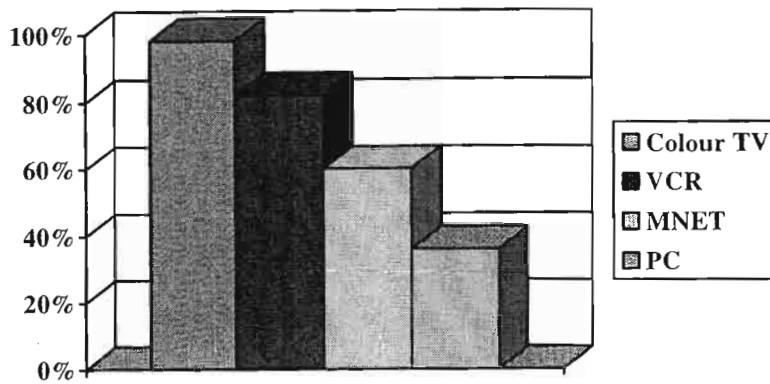
FIGURE 2. LSM 8 monthly expenditure on food and clothing



Consumerscope 1999

As one would expect, durables ownership is high in this group and 98% of households have colour televisions, 60% have M-Net decoders and 82% have VCR's (See Figure 3). Thirty six percent of households have personal computers at home. To place the exact findings into a context that may provide a clear perspective, in LSM 7, the second wealthiest group in South Africa, only 2% of households have personal computers.

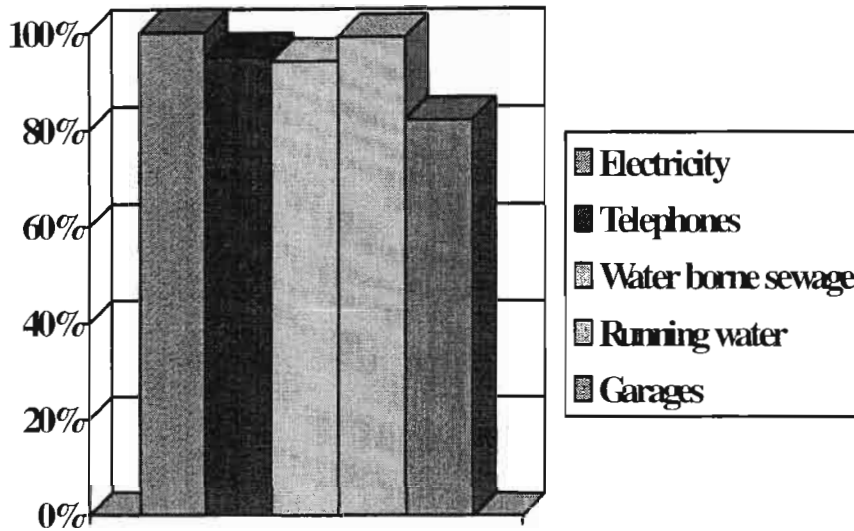
FIGURE 3. LSM 8 ownership of durables



Consumerscope 1999

Computer ownership and usage will be explored further in this paper using the South African Business Research Evaluation (SABRE) study. Facilities in the home are very advanced in this LSM group. One hundred percent of households have electricity, 95% have telephones, 94% have full water borne sewerage and 99% have running water in the house. Eighty three percent of households in LSM 8 have garages (See Figure 4).

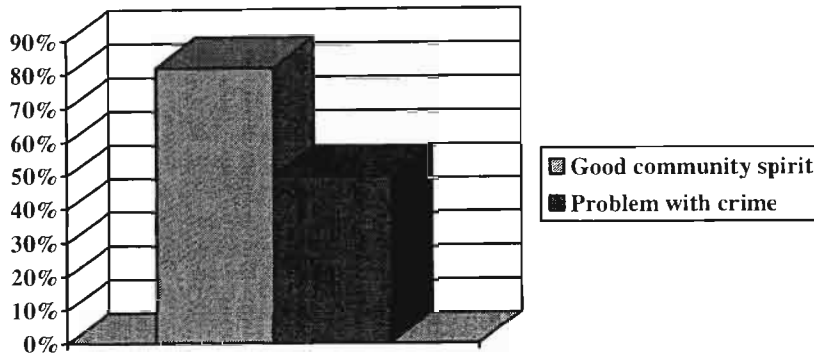
FIGURE 4. LSM 8 facilities in the home



AMPS 1999

Eighty two percent of these consumers claim that there is a good community spirit where they live, but 50% claim that crime is a problem (See Figure 5).

FIGURE 5. LSM 8 attitude towards the community



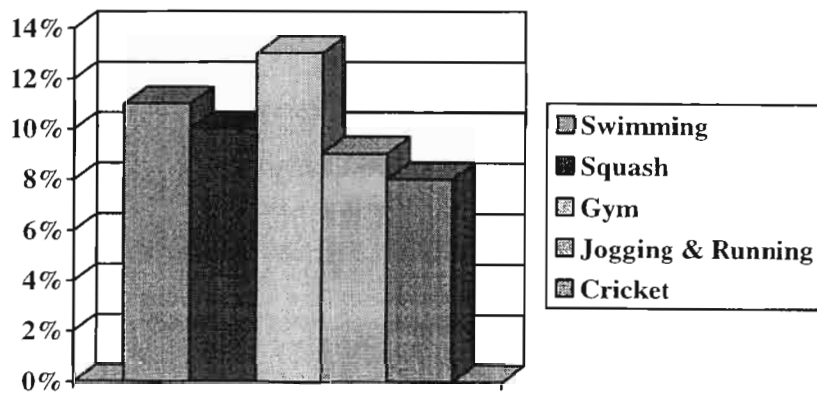
Consumerscope 1999

One can see from this analysis of LSM 8 that the group is homophilous as described by Rogers (1995:214) and thus diffusion of electronic news is more likely to be achieved.

2.3.1.2 Personality variables

Seventy seven percent of LSM group 8 have an interest in sport and participate in swimming (11%), squash (10%), gym (13%), jogging and running (9%) and cricket (8%) (See Figure 6).

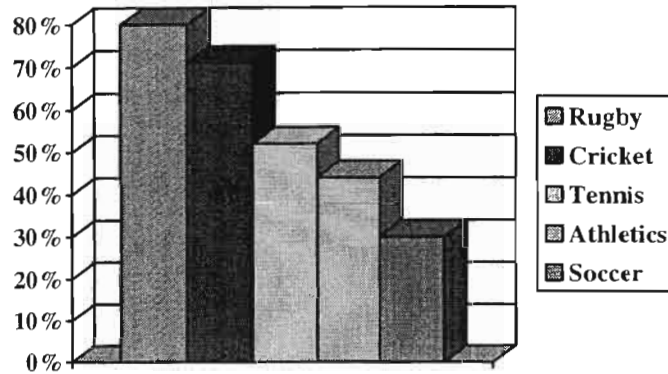
FIGURE 6. LSM 8 sports participated in



Consumerscope 1999

Eighty percent of this group claim to enjoy watching rugby, 71 % cricket, 52% tennis, 44% athletics and only 30% soccer (See figure 7).

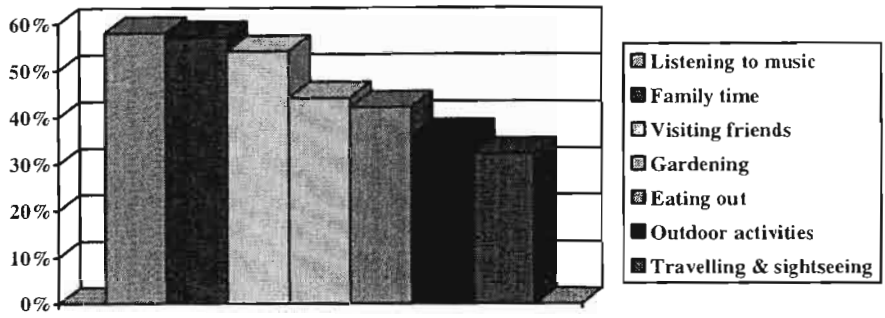
FIGURE 7. LSM 8 sports watched



Consumerscope 1999

Interests and hobbies include listening to music (58%), spending time with the family (57%), visiting friends (54%), gardening (44%), eating out (42%), doing outdoor activities (36%) and travelling and sightseeing (32%).

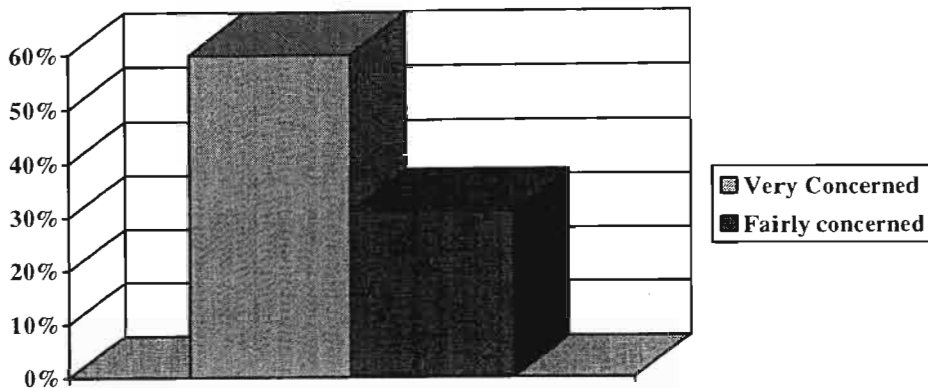
FIGURE 8. LSM 8 interests and hobbies



Consumerscope 1999

This group rates life in South Africa as 8.09 out of 10. The overriding goals and ambitions for LSM 8 consumers are to improve their education, to spend time with their families and to try to make a better life for their children. They rate the biggest problems facing South Africa as crime, unemployment/retrenchment, the economy and poverty. Sixty percent of this group are very concerned about life in South Africa and 31% are fairly concerned as a result of perceived threats to the status quo that has existed for many years.

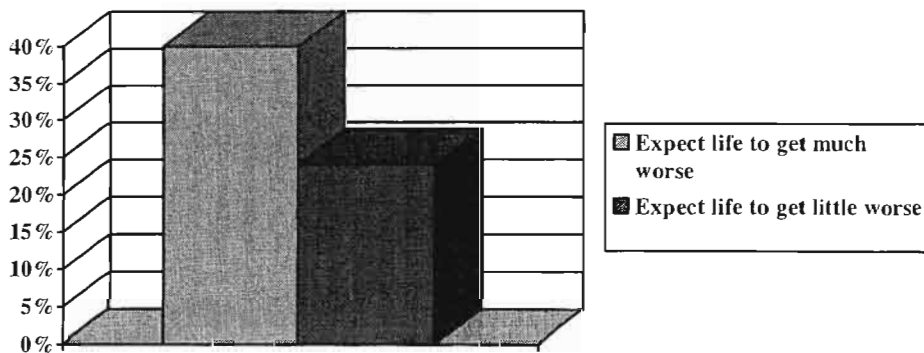
FIGURE 9. LSM 8 attitude towards life in South Africa



Consumerscope 1999

Expansion on this theme reveals that 40% of this group expect life in South Africa to be much worse in 5 years time and 24% a little worse.

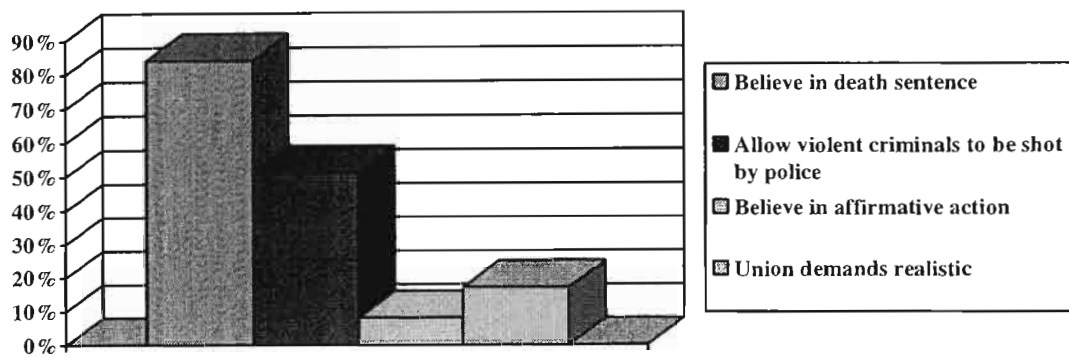
FIGURE 10. LSM 8 attitude towards life in South Africa in the future



Consumerscope 1999

Eighty four percent of this group believe that South Africa should have the death sentence and 51% believe that the police should be allowed to shoot violent criminals. Only 8% believe there should be affirmative action and only 17% believe that trade union demands are realistic.

FIGURE 11. LSM 8 attitude towards other South Africans

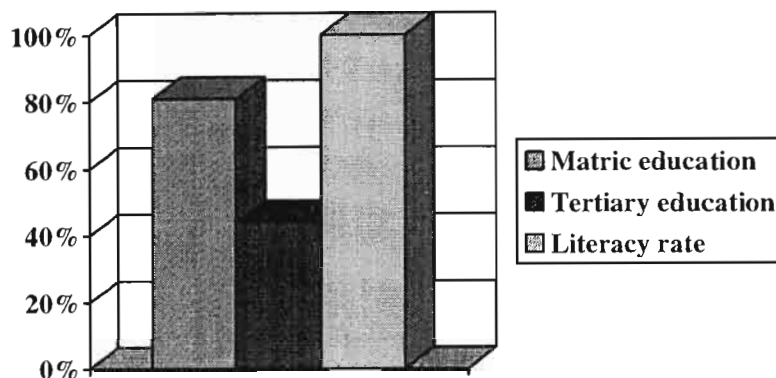


Consumerscope 1999

2.3.1.3 Communication behaviour

LSM 8 consumers consume the most media of all the LSM groups and have the greatest exposure to all media types owing to their mobility and affluence. Eighty one percent of this group have matriculated in the high school education system and 44% have achieved further training. One hundred percent of this group are literate and the high level of literacy also impacts significantly on their consumer media habits.

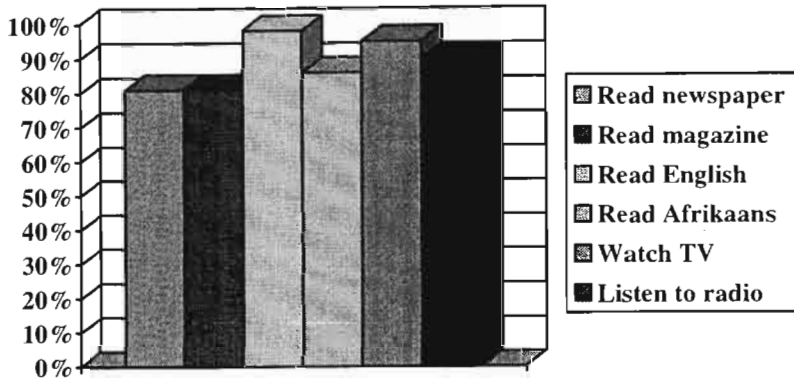
FIGURE 12. LSM 8 education



AMPS 1999

Eighty one percent of this group read a newspaper at least once a week and 81% read a magazine at least once a fortnight. Ninety eight percent claim to read English and 86% Afrikaans. Ninety five percent watch TV once a week or more often and 90% listen to the radio once a week or more often.

FIGURE 13. LSM 8 media consumption

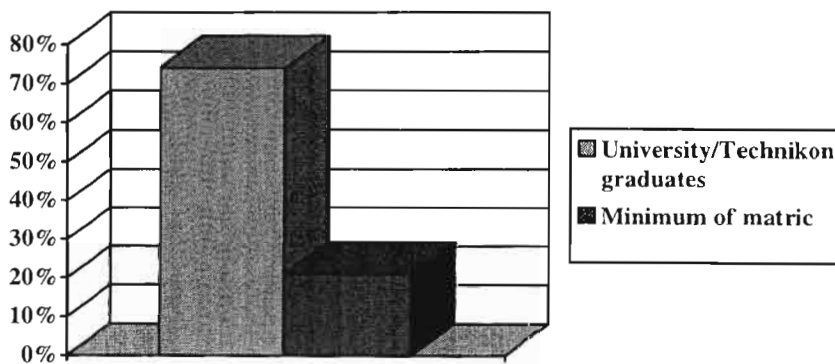


AMPS 1999

To support the assumptions made above regarding Internet usage in South Africa, the South African Business Research Evaluation (SABRE) report (1999) will be utilised in the following conjectures. SABRE focuses on the business market with a reliable sample of 2302 business decision makers representing a business market of 171 000 people. The study is conducted every two years by Markinor (Pty) Ltd. In 1999, for the first time, a detailed probe on Internet usage was included encompassing publication sites accessed, on-line banking and on-line purchasing.

Informed by the findings above, SABRE contends that Internet users in South Africa are very well educated with over 74% being university or technikon graduates. In addition to this, 21% have achieved at least Matriculation as the highest level of education.

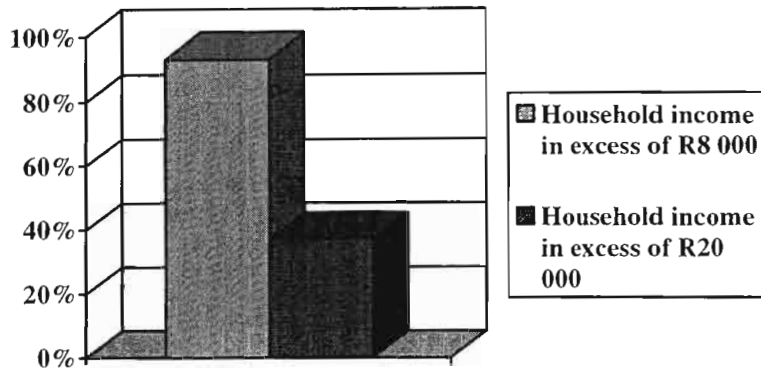
FIGURE 14. South African Internet users education



SABRE 1999

Further, 93% have a household income in excess of R8 000 per month and 37% have a monthly household income in excess of R20 000 per month.

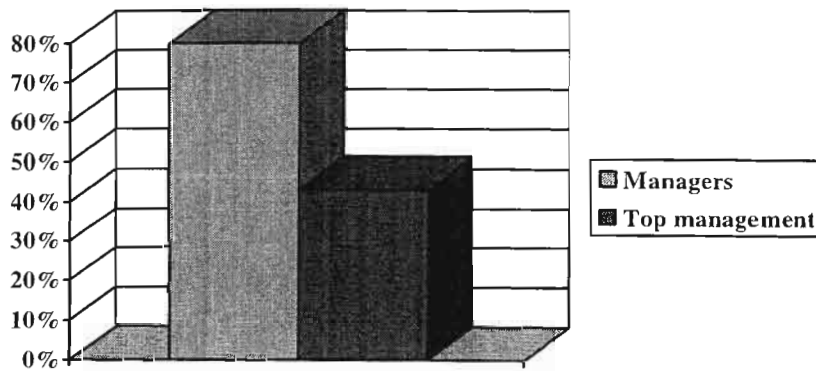
FIGURE 15. Household income – Internet users



SABRE 1999

Eighty percent of Internet users in South Africa are managers, with 43% comprising top management.

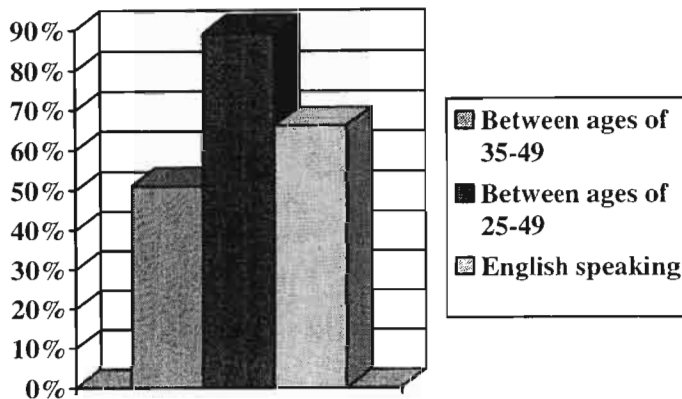
FIGURE 16. Position at work



SABRE 1999

Fifty one percent of all Internet users in South Africa are between the ages of 35-49, 89% are between the ages of 25-49 years and 66% speak English as their main language.

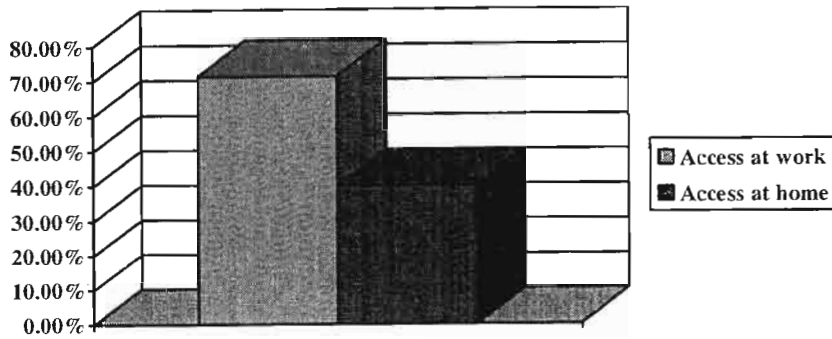
FIGURE 17. Age and language spoken



SABRE 1999

Seventy one percent of all Internet users access the Internet at work and 40% access it at home. Obviously, some people have the luxury of having access both at home and at work (See Figure 18).

FIGURE 18. Where Internet is accessed



SABRE 1999

These findings confirm the earlier assumptions that the vast majority of Internet users in South Africa fall into Living Standards Measures group 8, the most affluent group in South Africa and a group where opinion leadership is a highly developed phenomenon.

According to Rogers (1995:225), opinion leadership is the degree to which an individual is able to influence other individuals' attitudes or overt behaviour informally in a desired way, with relative frequency. This informal leadership is not a function of the individual's formal position or status in the system. Opinion leadership is earned and maintained by the individual's technical competence, social accessibility and conformity to the systems norms. When the social system is oriented to change, the opinion leaders are quite innovative, but when the systems norms are opposed to change, the behaviour of the leaders also reflects this norm (Rogers, 1995:225).

When opinion leaders are compared with their followers (Rogers, 1995:230), they are:

- More exposed to all forms of external communication, and are thus more cosmopolite;
- Of a somewhat higher social status;
- More innovative.

Change agents, in this instance, companies currently publishing newspapers on the Web, would thus be well advised to use opinion leaders in a social system as their lieutenants in diffusion campaigns. This is precisely what has transpired with electronic newspapers and subsequently electronic publishers have targeted early adopting LSM 8 consumers with their products.

The next section looks at the role of time in the diffusion process.

2.4 TIME

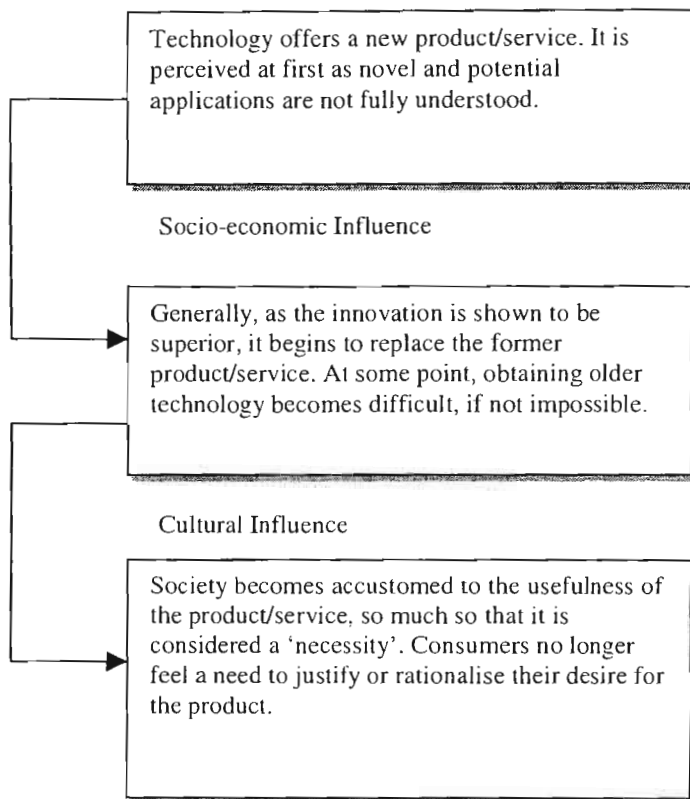
Time is the backbone of the diffusion process. It pervades the study of diffusion in three distinct but interrelated ways (1) purchase time, (2) the identification of adopter categories, and (3) the rate of adoption (Schiffman & Kanuk, 1994:112).

2.4.1 Purchase time

Purchase time refers to the amount of time that elapses between consumers' initial awareness of a new product or service and the point at which they purchase or reject it. Purchase time is an important concept because the average time a consumer takes to adopt a new product is a predictor of the overall length of time taken for the new product to achieve widespread adoption. For example, when the individual purchase time is short, a marketer can expect that the overall rate of diffusion will be faster than when the individual purchase time is long.

Another aspect of the impact of time on the adoption and diffusion processes is evident if we consider how an innovation, over time, moves towards becoming a necessity in the minds of adopters within a particular society (Schiffman & Kanuk, 1994:121).

FIGURE 19: How a new product/service evolves into a need

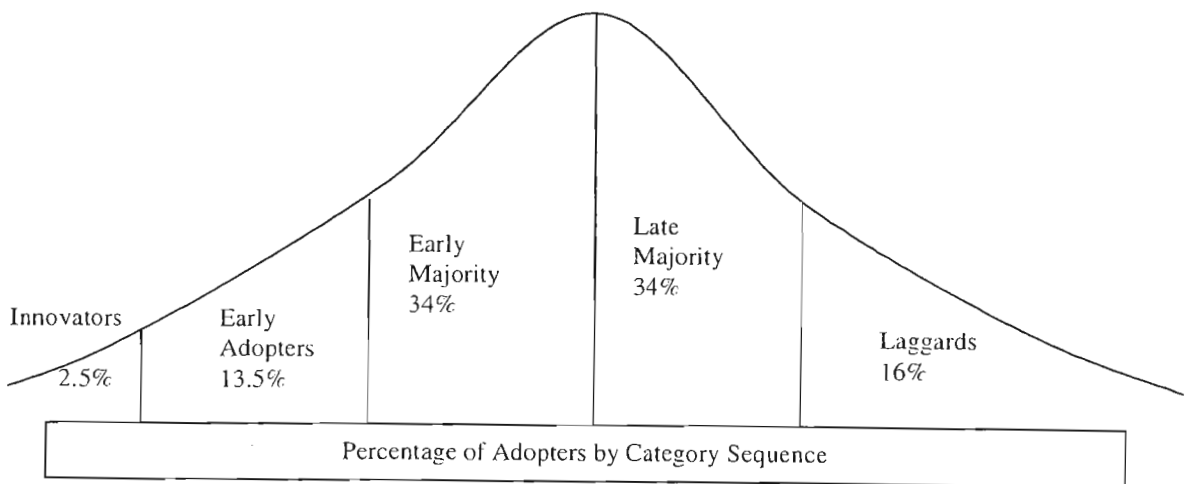


Schiffman & Kanuk, 1994:164

2.4.2 Adopter categories

The concept of adopter categories involves a classification scheme that indicates where a consumer stands in relation to other consumers in terms of time, i.e. when he or she adopts a new product. Five adopter categories are frequently cited in the diffusion literature: innovators, early adopters, early majority, late majority and laggards. Diffusion research shows that the members of each of the adopter categories has much in common.

FIGURE 20. The sequence and proportion of adopter categories among the population that eventually adopts



Schiffman & Kanuk, 1994:166

As this figure indicates, the adopter categories are generally depicted as taking on the characteristics of a normal distribution that describes the total population that ultimately

adopts a product. This research will not concentrate on identifying the adopters of an innovation, in this case electronic newspapers, but rather on the factors that influence adoption of electronic news via the Internet and the effect this adoption has on traditional printed news.

2.4.3 Rate of adoption

The rate of adoption is concerned with how long it takes a new product to be adopted by members of a social system. Here, it is pertinent to consider how quickly a new product is accepted by those who will ultimately adopt the product. The general view is that the rate of adoption for new products is becoming shorter. Hence, the above contention is true of computers and the Internet and validates the thesis discussed in this proposal.

As has been demonstrated, most innovations have an S – shaped rate of adoption, but according to Rogers (1995:224), there is a variation in the slope of the “S” from innovation to innovation. Some new ideas diffuse relatively rapidly and the S – curve is quite steep. Other innovations have a slower rate of adoption, and the S curve is more gradual, with a slope that is relatively lazy.

2.5. SUMMARY

This chapter has explored the diffusion process and the four factors influencing this, the innovation, the channels of communication, the social system and time.

Innovation was discussed initially in the chapter, and the four perspectives of innovation were discussed. Innovations that are examined from the perspective of the firm producing the innovation are referred to as firm-oriented innovations whilst innovations that are examined from the perspective of the product being produced are referred to as product-oriented innovations. An innovation that is new to a market is referred to as a market-oriented innovation and finally products that a consumer perceives as new are referred to as consumer-oriented innovations. Consumer-oriented definitions seem to present a valid theoretical approach as it is within the context of the consumer environment that a product will be judged and ultimately adopted or rejected. If a firm believes they have a product that is an innovation within the market, it does not matter if the consumer does not believe it to be so.

In addition to the above, innovations were also classified according to whether they are continuous innovations, dynamically continuous innovations or discontinuous innovations.

A continuous innovation was classified as having the least disruptive influence on established usage patterns and a discontinuous innovation the most disruptive influence. Electronic newspapers were classified as a discontinuous innovation on account of the manner in which the new newspapers have diffused and because of the way the electronic forms have completely altered established reading patterns and the way people consume news.

Product characteristics that influence diffusion were thereafter explored and five aspects of diffusion were examined namely, relative advantage, compatibility, complexity, trialability and observability.

Relative advantage refers to the degree to which the innovation is superior to established alternatives. Electronic news and traditional paper printed news were examined from the above-mentioned perspective and a brief perusal of the news on the Web suggests that there are compelling reasons to read the on-line version of newspapers.

Compatibility refers to the degree to which an innovation is consistent with the individuals needs, values and practices. Consequently, the Internet which is commensurate with the needs of many users globally and locally, has become a part of many people's lives. Speculation is made about how the Internet is becoming an essential and indispensable tool.

Complexity refers to the degree to which an innovation is difficult to understand or use. A special relevance is noted with respect to technical innovations like the Internet and electronic newspapers. Research indicates that if an innovation is not well understood, the product is likely to be rejected by consumers. The Internet has managed to address the issue of complexity to a degree. Here the use of the easily operated Mosaic based software means that users do not have to know complicated commands in order to navigate their way through the Internet.

Trialability refers to the degree to which an innovation can be tried on a limited basis before consumers have to commit to purchasing a product. The culture of the Internet is free and this has greatly helped the diffusion of the innovation.

Finally observability is the degree to which an innovation can be explained or imagined by users. The Internet has become such a talked about phenomenon, both through the media and through word of mouth, that this has greatly facilitated its diffusion.

The second aspect of the diffusion of innovations, the channels of communication, were described in the close examination of the actual explosive growth of the Internet over the last fifteen years. The Internet is the fastest diffusing media of all time, reaching 50 million homes in just five years and the all-pervasive nature of the Internet compounds its diffusion potential.

The third aspect of the diffusion of innovations -the social system, is indicated in the reference to research on Internet users in South Africa. Indications are that Internet users in South Africa are amongst the top earners, are amongst the best educated and hold prominent positions at work. The fact that users are so cosmopolite has greatly enhanced the diffusion of the innovation.

The final element of the diffusion of innovations, namely time, was illustrated by depicting the time taken for a consumer to adopt or reject an innovation and how the rate of adoption of innovations is decreasing. The adopter categories of innovators, early adopters, early majority, late majority and laggards were also discussed.

Further to the exploration of the diffusion process, the next chapter looks at the next stage in the diffusion of innovations, namely the adoption process.

CHAPTER 3

THE ADOPTION PROCESS

It is often assumed that the consumer moves through five stages in arriving at a decision to purchase or reject a new product: (1) awareness, (2) interest, (3) evaluation, (4) trial, and (5) adoption or rejection. The assumption underlying this process is that consumers engage in extensive information search, while consumer involvement theory suggests that for some products, limited information search is more likely. Although this traditional adoption process model has been helpful to consumer researchers the limitations as outlined by Schiffman & Kanuk, (1994:132) delineated below need consideration, for in the framework of the traditional theoretical position there is not:

- adequate acknowledgement of a need or problem-recognition stage that may precede the awareness stage;
- adequate provision for the rejection of a product after its trial or a situation where a consumer never uses the product on a continuous basis;
- adequate recognition that evaluation occurs throughout the decision making process and not solely at the decision stage;
- adequate consideration of the possibility that the five stages may not always occur in the specific order suggested (e.g. trial may occur before evaluation), nor does the model address the likelihood that some of the stages may in fact be skipped;
- Finally it does not explicitly include post-purchase evaluation, which can lead to a strengthened commitment or a decision to discontinue use.

For this reason, the traditional adoption process model has been updated into a more general decision-making model - the innovation decision process.

3.1. THE INNOVATION DECISION PROCESS

According to Rogers (1995:243), diffusion scholars have long recognised that an individual's decision about an innovation is not an instantaneous act. Rather it is a process that occurs over time, and consists of a series of actions and decisions.

This model identifies five steps which consumers experience when they decide whether or not to adopt a new product (Schiffman & Kanuk, 1994:136):

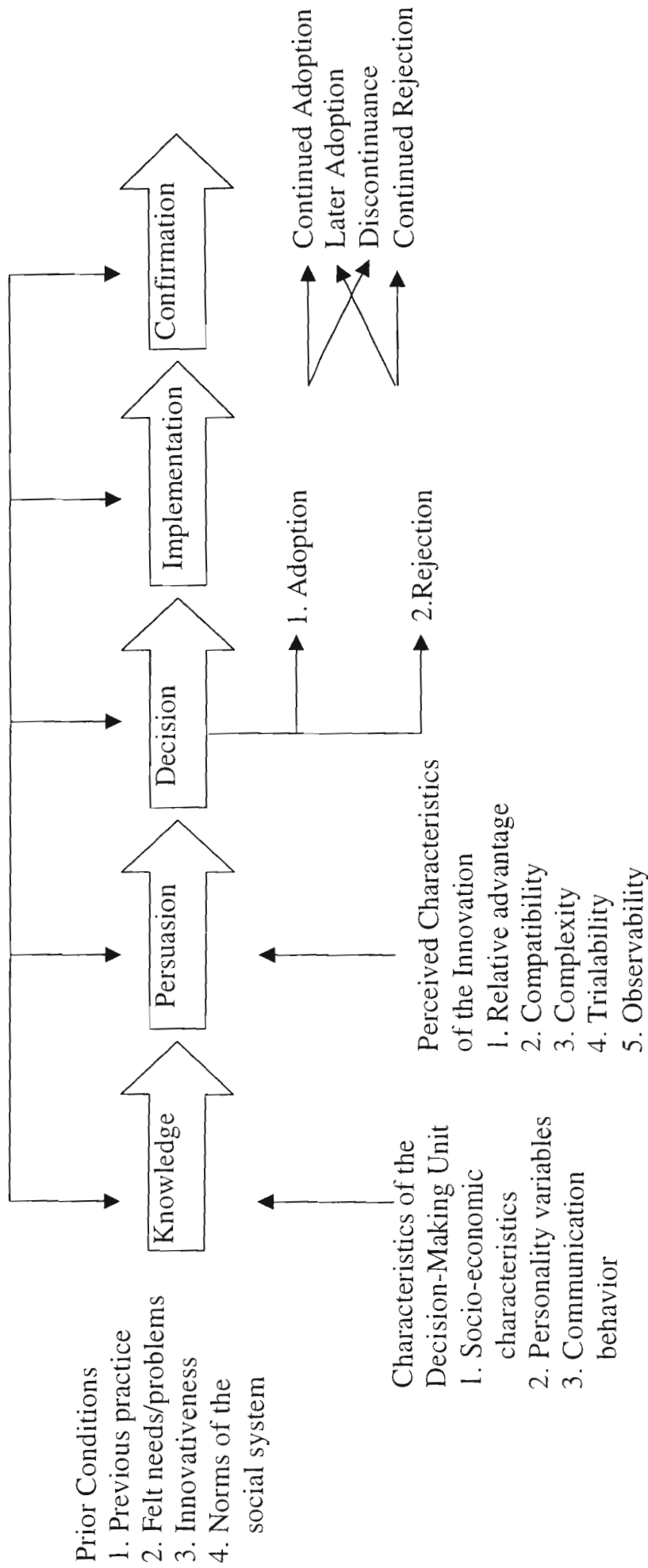
- Knowledge. The consumer is exposed to a new innovation such as the Internet and gains some understanding of how it functions.
- Persuasion or attitude formation. The consumer forms favourable or unfavourable attitudes towards the innovation.
- Decision. The consumer engages in activities that lead to a choice to adopt or reject the innovation.
- Implementation. The consumer puts the innovation into use.
- Confirmation. The consumer seeks reinforcement for the innovation decision, but may reverse this decision if exposed to conflicting messages about the product.

This model of consumer adoption suggests that a number of prior conditions such as felt needs and social-system norms, as well as characteristics of the decision-making unit such as socio-economic status and personality factors influence the reception of information about the product innovation during the knowledge stage. At the persuasion

or attitude formation stage, the consumer is further influenced by communication channels and by perceptions of the characteristics of the innovation, in other words its relative advantage, compatibility, complexity, trialability and observability. Additional information received during the decision stage enables the consumer to assess the innovation and decide whether to adopt or reject it. During the implementation stage, further communication is received as the consumer puts the innovation to use. The final stage, which is confirmation, is also influenced by communications sources. It is at this stage that consumers evaluate their purchase experiences, look for support for their behaviour, and decide to continue or discontinue using the product (Schiffman & Kanuk, 1994:143).

Figure 21 shows this process in more detail.

Communication Channels



Rogers, 1995:61

3.2. PRIOR CONDITIONS

In order to demonstrate the prior conditions that exist in the decision to read or not to read electronic news on the Internet, an investigation of the time spent on the Internet per week by Internet users will be examined. Once again, the SABRE report referred to earlier, has been utilised to demonstrate the case which is made in this study.

FIGURE 22. Time spent on the Internet per week

	Accessed Internet	At Work	At Home	Elsewhere
TOTAL	76,000	54,300	30,400	1,600
	100%	71.5%	40%	2%
0 Minutes	1,400 1.8%	200 0.4%	300 0.8%	100 3.5%
1-30 Minutes	13,400 17.6%	8,000 14.7%	4,500 14.9%	400 27.7%
31-60 Minutes	15,700 20.7%	10,000 18.4%	4,800 15.7%	600 36.9%
61-90 Minutes	2,000 2.6%	1,200 2.3%	900 3.1%	0 0%
91-120 Minutes	10,600 13.9%	8,100 14.9%	3,800 12.4%	200 11.1%
121-180 Minutes	7,900 10.4%	6,100 11.2%	3,000 10%	100 4.2%
181-240 Minutes	3,400 4.5%	2,800 5.1%	1,700 5.7%	100 4.2%
241 plus	21,400 28.2%	18,000 33.1%	11,300 37.1%	200 12.5%
Average Minutes	271	305	334	146

SABRE 1999

One would assume therefore that prior conditions are extremely favourable for an innovation like on-line publications. It appears that usage of the Internet is well developed and that the social system referred to above has embraced Internet technology. The innovativeness of the group is unquestioned and the norms of the social system suggest that this group consist of the early adopters in the category, as defined earlier in the study.

3.3. KNOWLEDGE STAGE

The knowledge stage of the innovation decision process begins when an individual or other decision-making unit, is exposed to the existence of an innovation and gains some understanding of how it functions. According to Gronhaug and Kaufman (1988:150), some observers claim that an individual plays a passive role in being exposed to awareness-knowledge about an innovation. The contention is that an individual becomes aware of an innovation by accident, since the individual cannot actively seek an innovation until he/she knows that it exists. Other scholars of diffusion theory perceive that an individual gains awareness-knowledge through behaviour that must be initiated and that awareness-knowledge is not just a passive activity (Gronhaug, 1988:149). The predisposition of individuals influences their behaviour towards communication messages and the effects that such messages are likely to have. Individuals tend to expose themselves to ideas that are in accordance with their interests, needs and existing attitudes (Gronhaug, 1998:157). Furthermore, individuals will seldom expose themselves to messages about an innovation, unless they first feel a need for the innovation. Yet even if such individuals are exposed to these messages, such exposure will have little

effect, unless the innovation is perceived as relevant to the individuals' needs, as well as consistent with the individuals' attitudes and beliefs.

Rogers (1995:166-167) makes the following generalisations about the knowledge stage of the innovative decision process, in relation to early knowers of an innovation. They have:

- more formal education than later knowers;
- higher socio-economic status than late knowers;
- greater exposure to mass media channels of communication than later knowers;
- a more enhanced exposure to interpersonal channels than later knowers;
- more augmented change agent contact than later knowers;
- a greater degree of social participation than later knowers.

The findings are consistent with the analysis of the target group for Internet users that was discussed earlier in this thesis.

Clearly the prior conditions for the adoption of electronic news via the Internet are extremely favourable.

3.4. CHARACTERISTICS OF THE DECISION-MAKING UNIT

As discussed in this thesis, the decision-making units for those people using the Internet fall into Living Standards Measure group 8. Moreover, as indicated the group is homogenous, constitute the most affluent sectors of South African society and hold positions of power and influence. There is a high propensity for Internet usage as this sector of South African society are the early adopters of the innovation.

Adopters form either positive or negative attitudes about the innovation, which leads them to the next stage referred to as the persuasion stage.

3.5. PERSUASION STAGE

At the persuasion stage of the innovation-decision process, the individual forms a favourable or unfavourable attitude toward the innovation. Whereas the mental activity at the knowledge stage was mainly cognitive or knowing, the main type of thinking at the persuasion function is affective or feeling. At the persuasion stage the individual becomes more psychologically involved with the innovation.

3.5.1. Perceived Characteristics of the innovation

The relative advantage, compatibility, complexity, trialability and observability of electronic news has been dealt with earlier in the study. As was demonstrated, there are

compelling reasons for a reader of a newspaper to also incorporate reading of newspapers on the on-line edition. According to Midgley (1977:166), in developing a favourable or unfavourable attitude towards the innovation, an individual may mentally apply the new idea to his or her present or anticipated future situation before deciding whether or not to try the innovation. The ability to think hypothetically, counter factually and to project into the future is an important mental capacity at the persuasion stage where forward planning regarding the innovation is involved (Midgley, 1977:169). At the persuasion stage the individual is motivated to seek innovation-evaluation information, in other words the reduction in uncertainty about an innovation's expected consequences. Here the individual usually wants to know the answers to such questions as "what are the innovation's consequences?" and "what will its advantages and disadvantages be in my situation?" Typically the information about the new commodity is often easily available from scientific evaluations of an innovation. Yet customers usually seek recommendations from their close peers. Frequently, the peer groups hold subjective opinions of innovations, based on their personal experience with the adoption of the new idea. But the sanction of the peer is most convincing. When someone from a particular group positively evaluates a new product or service, the others in the group are often motivated to adopt it (Midgley, 1977:174).

In line with the preceding contentions, the research component of this thesis is concerned with how consumers arrive at the decision whether to adopt or reject newspapers in electronic form via the Internet. Furthermore, an analysis is made of the factors that

influence this adoption. The readers' relationship with newspapers in the light of the new phenomenon of the World Wide Web is also investigated.

3.6. DECISION STAGE

The decision stage in the innovation decision process occurs when an individual engages in activities that lead to a choice to adopt or reject an innovation. Adoption is a decision to make full use of an innovation as the best course of action available. Rejection is a decision not to adopt an innovation. According to Schiffman & Kanuk (1994:262) one way to cope with the inherent uncertainty about an innovation's consequences, is to test the new idea on a partial basis. Most individuals will not adopt an innovation without trying it first on a probationary basis, in order to determine the possible usefulness in their own situation. Thus a small-scale trial is often part of the decision to adopt. Innovations that can be divided for trial are generally adopted more rapidly. Most individuals who try an innovation then move to an adoption decision, if the innovation has at least a certain degree of relative advantage.

The innovation decision process can just as easily lead to a rejection decision. In fact, according to Rogers (1995:178), each stage in the innovation-decision process is a potential rejection point.

3.7. IMPLEMENTATION STAGE

Implementation occurs when an individual puts an innovation into use. According to Midgley (1977:189), until the implementation stage, the innovative decision process has been a strictly mental exercise. But implementation involves overt behaviour change, as the new idea is actually put into practice. It is often a separate issue for an individual to decide to adopt a new idea, and consequently, quite a different predicament to put the innovation into use. Implementation usually follows the decision stage rather directly unless there are delays from some logistical problem, like the temporary unavailability of the innovation. When does the implementation stage end? According to Schiffman & Kanuk (1994:267), it may continue for a lengthy period of time, depending on the nature of the innovation, but eventually a point is reached, where the new idea becomes an institutionalised part of the adopter's ongoing operations. Implementation may also represent the termination of the innovation-decision process, at least for most individuals, but for others a fifth stage of confirmation may occur.

3.8. CONFIRMATION STAGE

As elaborated previously, a decision to adopt or reject is often not the terminal stage in the innovation-decision process. At the confirmation stage the individual seeks reinforcement of the innovation-decision already made or reverses a previous decision to adopt or reject the innovation, if the individual is exposed to conflicting messages about the innovation. At the confirmation stage the individual seeks to avoid a state of dissonance or he/she seeks to reduce conflict if it is apparent.

According to Schiffman & Kanuk (1994:267), an individual who feels dissonant will ordinarily be motivated to try and reduce the condition of apparent conflict by changing his or her knowledge, attitudes or actions. In the case of innovative behaviour, dissonance reduction may occur after the decision to implement the innovation. In such an instance the individual may secure further information that persuades him/her that contrary to expectation, he/she should not have adopted the innovation. This dissonance may be reduced by discontinuing the innovation. However, if he/she originally decided to reject the innovation, the individual may become exposed to positive innovation messages, causing a state of dissonance that can be reduced by adoption. According to Rogers (1995:193), these types of behaviour, discontinuance or later adoption, occur during the confirmation stage of the innovation-decision process.

Discontinuance is a decision to reject an innovation after having previously adopted the innovation, which is one indication that the new idea may not have been fully institutionalised and routinised into the ongoing practice and way of life of the adopter at the implementation stage of the innovation-decision process. Such routinisation is less likely and discontinuance is more frequent when the innovation is less compatible with the individual's beliefs and past experiences (Rogers, 1995:193).

3.9. SUMMARY

Chapter 3 describes and articulates the adoption of the innovation. The innovation decision process model is used to describe the five stages through which a consumer passes in deciding whether to adopt or reject an innovation. These are knowledge, persuasion, decision, implementation and confirmation.

Preceding the first stage in the process is the aspect of “prior conditions” that deal with previous practices of the consumer group, the felt needs and problems the consumers experience and the innovativeness and norms of the social system. If the prior conditions for an innovation are positive, i.e. if the consumer group is used to technological innovations and they have a definite need for the innovation, then the innovation has a much greater chance of succeeding. Of course this success is also dependent on the innovativeness of the social system. A highly innovative group will be far more inclined to adopt an innovation than a group that is inherently conservative.

Assuming that the prior conditions for the diffusion of an innovation are met, the knowledge stage becomes important. During the knowledge stage, information about the innovation’s existence becomes apparent or is sought. Underpinning the knowledge stage, however, are the characteristics of the decision-making unit, which may be an individual or a group of people. The socio-economic characteristics of the group and their personality variables greatly affect the way knowledge is received and processed, as

does the communication behaviour of the group. The more inclined the group is towards receiving pro-innovation messages, the more likely it is that they will become aware of the innovation and make an assessment of it.

The acquisition of knowledge of an innovation, precedes the next stage in the process, namely the persuasion stage. The determination of whether an innovation is suitable for adoption or not is determined by the relative advantage of the innovation, its compatibility, complexity, trialability and observability as discussed in chapter 2.

Thereafter the decision to either accept or reject the innovation is immediately followed by the implementation stage, which is not the final stage in the process as there is also a stage of confirmation where a consumer decides whether to continue to adopt the innovation or to discontinue adoption.

If the innovation is rejected in the decision stage, this may be altered in the confirmation stage by later adoption, or alternatively the consumer may continue to reject the innovation.

The adoption process leads to the diffusion of innovations on a wider scale, with distinct consumer behaviour patterns. Hence, the next chapter deals with a pertinent observation of the diffusion of innovations; the concept of reinvention. Essentially, reinvention occurs when consumers modify the innovation in accordance with their own experiences or set of beliefs. Reinvention is particularly pertinent when studying the diffusion of the

Internet because consumers are continually modifying their Internet behaviour, which leaves the on-line publishers very few precedents to follow when developing the publishing products.

CHAPTER 4

THE REINVENTION OF THE INTERNET

Rogers (1995:212) makes reference to a concept known as reinvention, defined as the degree to which an innovation is changed or modified by a user in the process of its adoption and implementation. For the first several decades of diffusion research, theorists assumed that an innovation was an invariant quality that did not change during diffusion.

Some researchers measure reinvention as the degree to which an individual's use of a new idea departs from the mainline version of the innovation that was originally promoted. According to Rogers (1995:214), once scholars became aware of the concept of reinvention and began to measure its impact and effects, theorist had to readjust and take cognisance of the considerable degree of reinvention, which occurs, for many innovations. An innovation is not necessarily invariant during the process of its diffusion and adopting an innovation is not necessarily the passive role of exclusively implementing the standard template of a new idea.

Reinvention is a concept that has not been investigated by electronic publishers, yet conceivably consumers may choose to use electronic newspapers in many different ways and for many different purposes.

Reinvention could not really be investigated until diffusion researchers began to gather data about implementation, for most reinvention occurs at the implementation stage of the innovation decision process.

4.1 WHY DOES REINVENTION OCCUR?

Some of the reasons for reinvention lie in the innovation itself, while others involve the individual or organisation that is adopting the new idea. Rogers (1995:218) forwards the following generalisations regarding reinvention.

1. Innovations that are relatively more complex and difficult to understand are more likely to be reinvented. Reinvention thus might be a simplification of the innovation.
2. Reinvention can occur because of an adopter's lack of full knowledge about an innovation, such as when there is relatively little direct contact between the adopter and the change agents or previous adopters.
3. An innovation that is an abstract concept or that is a tool with many possible applications is more likely to be reinvented.
4. When an innovation is implemented, in order to solve a wide range of user's problems, reinvention is more likely to occur.
5. Local pride of ownership of an innovation may also be a cause of reinvention. Here the innovation is often modified in certain rather cosmetic or minor ways so that it appears to be a local product.
6. Finally, reinvention may occur because a change agency encourages its clients to modify an innovation.

Recognition of the existence of reinvention brings into focus a different view of adoption behaviour. Instead of simply accepting or rejecting an innovation as a fixed idea, potential adopters on many occasions are active participants in the adoption and diffusion process. But in the act of adoption there is a struggle as they actively seek to give their own unique meaning to the innovation as the product is applied in their local context.

A very fundamental example of the concept of reinvention occurred with the development of Videotex in the early 1980's. Using a proprietary box connected to a television set, users of this service connected to the newspapers database via a modem. Unlike the Web, which allows worldwide access, Videotex users were limited to information on the local newspapers database. As manager of the Videotex project for Knight Ridder, Fidler (1997:134) witnessed substantial excitement but not considerable market penetration for Videotex. Fidler contends that no matter what tactics the producers adopted, customers followed the same predictable pattern of playing with the system for a while and then using Videotex for purposes unrelated to the original intended use, for instance to talk to each other.

Videotex services were viewed as logical extensions of traditional printed newspaper, much like the thought behind newspapers on the Web today. Fidler (1997:140) states that the perceived benefits of these services were the provision of news and information that was more timely, more thorough and more personal. Videotex personnel found that

with the exception of major breaking news, such as an approaching hurricane, subscribers spent a remarkably small portion of their time retrieving news.

Fidler (1997:149) believes that the lesson learned is that most subscribers view on-line services as information faucets to be turned to exclusively when there is a need that is not satisfied by other readily available sources. Rather than becoming a family information centre, which many people in Videotex design had intended the aims of the project to ultimately serve, it was finally used more as a reference library.

Another problem experienced in the usage of the new technology, which Videotex initially presented, was wait time. Subscribers had little patience for the long delays. The download of material demanded a wait time of two or three seconds for a page to appear, which was not perceived as good enough. What customers wanted was nothing less than nearly instantaneous response times. And unlike a newspaper, Videotex lacked an obvious structure that could be easily browsed. Although the Videotex design staff put an immense effort into visually enhancing the Videotex pages, the medium could not compete with the compelling moving images of television or the ease of reading newspapers and magazines. Instead subscribers were confronted by a, seemingly, endless labyrinth of information, that was uninterrupted by any light relief.

Fidler (1997:148) contends that one of the critical lessons the Videotex experiment brought forth, was the recognition that the producer needs to treat market research for emerging media technologies with caution. In the real world, people do not always want

what they articulate, as their authentic needs, nor do individuals do what they claim will be their intended actions. Fidler also states that companies which launched the first U.S. Videotex services were misled into believing that a new media technology alone would be adequate to instantly yield a powerful market demand.

Michael Noll, an AT&T executive involved in the market trial of Viewtron (as reported by Fidler, 1997:154), publicly challenged the fundamental hypothesis underlying the Videotex movement. Noll argued that large databases of general interest information would not satisfy the information needs of consumers. In fact, he contended, ways of satisfying these needs were not well understood. Fifteen years ago, Noll raised the concern that computerised databases might be too time consuming for practical usage, difficult to use and inadequate for most people. Noll's suggestion that transaction and interpersonal message services might be of more importance than information retrieval to on-line customers has proven to be quite prescient.

While Viewtron, an early Videotex brand, was promoted as an electronic newspaper, the service was not in any real way characteristic of its print counterpart. The electronic edition lacked an obvious structure that could be easily browsed. Instead of a familiar, manageable package of information with a definite beginning and end, such as a newspaper, Viewtron subscribers were confronted with a strange, seemingly endless mass of information. Today the kind of information overload that is quintessentially representative of Viewtron, is compounded hundred-fold, with literally millions of places to retrieve information on the Web.

In the end, Viewtron design staff found that visually enhancing the Videotex pages made no significant impact on the market, for the medium could not compete with the entertainment value of the compelling moving images of television or the ease of reading newspapers and magazines. With hindsight, Fiddler (1997:157) claims that the attempt to position Viewtron as an electronic newspaper was a mistake. He believed that the key error was the failure to recognise expeditiously that Videotex derived most of its dominant attributes from the interpersonal domain, rather than from the document or broadcast domains.

Clearly, the concept of reinvention occurs frequently in the marketplace. Consumers found new uses for the Videotex service, quite unrelated to its original, intended usage. Perhaps, the occurrence is partly related to the complexity of the new service, as Rogers (1995:217) points out, but also owing to people not particularly being in readiness for this type of technology. The Web faces similar interesting challenges today in that the marketplace is fickle and users are unpredictable, for in a moment some new adaption can seduce what is seemingly a stable market of users.

When electronic news was first conceived, a logical conclusion seemingly was that newspapers were a new area that could attract users. Contrary to the beliefs Web publishers adhered to, the real competition for electronic news is not with traditional printed newspapers but television. The flashy graphics, Shockwave and Java animations, Real Audio and a host of other features lured potential markets to a more dramatic

medium. Brueckner (1996:59) believed that this was happening because most people think about the Web in terms of a medium that they already understand and evidently the medium they understand best is television. He went on to say that traditional advertising, TV, radio and print, have always operated on the broadcast model, that is, adverts piggyback on programming and editorial content. Because the consumer is used to seeing adverts they will generally tolerate them. However, Brueckner finds that generally the Web community takes an active dislike to advertising when they recognise it and that the broadcast model of a Web advert is particularly designed to typify the community expectations of an advert.

In an interactive site, marketers presume that content is the paramount attraction for the site user. Often there is the broad assumption that “you’re at my site, so you’re interested in my products” (Brueckner, 1996:60). Furthermore, Brueckner (1996:60) holds that there is an erroneous assumption that people will be interested in manufacturers’ Web-sites and the products advertised on the Web. In other words, if a company builds a Web-site, customers will not automatically visit the site. The only motivation for web-surfers to go to a particular site is when they have a pressing interest to do so. Brueckner (1996:60) felt that too much of the Web’s appeal is novelty and that marketers are spending too much time on trying to mimic television. He stated that the Web simply does not have the bandwidth to compete as a broadcast medium. Ultimately, when the novelty of the Web wears off and this process is inevitable, where will the value of the Web market reside?

Hence in the final analysis, consumers define the Web, not in terms of the parameters laid out by the Web publishers, but based on individual experiences and by what users know. This is another example of how consumers reinvent the Web and the products that are available on-line.

Copious examples are on record of “can’t miss” technologies that fail on account of the way consumers have reinvented and redefined the services and products. In 1994, pundits were touting the future of interactive television, claiming that everyone would be ordering movies on demand and enjoying a 500 + channel universe. Today however, most interactive TV trials have disappeared into technical and balance sheet quagmires (Outing, 1996a).

One of the latest “can’t miss” predictions is Web TV. The entry of the new technology Web TV networks into the marketplace has created a decoder that allows consumers to tune into the Web through their television set, providing complete access to the Internet. Lorek (1999:1) explains that with Web TV, consumers can receive electronic mail, lists of Web sites, entertainment, news, city guides and will have the ability to shop electronically. Web TV works through a television set and phone line, allowing users to explore the Internet and Web without computer knowledge and without an expensive personal computer. Lorek believes that the Internet requires new users and should seek the construction of relationships that enable the development of flourishing new markets. Yankelovich Partners (as reported by Lorek, 1999:3), believes that Web TV might be the answer to the need to find a new kind of user for the Internet.

Web TV is trying to attract the average person by providing them with Internet access through a television set. Hood (1997:20) holds that even though Web TV is a proprietary network, complexity is removed from the service by controlling the hardware and the access. Finally the customer experiences a very different service.

Crosbie (1996:27) states that technology and its complexities intimidate the bulk of the general consumer population. He found that the general consumer population clearly exhibits different behaviour patterns to the “technosavvies” (Crosbie, 1996:8) who currently use the Web.

Web TV is probably the single item that holds the promise of moving the Internet one step closer to having a worldwide mass audience. Outing (1996a) identifies much scepticism about Web TV, as several pundits compare the Internet on a television set to the failed Videotex experiments in the early 1980's. However, he contends that today the Internet is far more diverse, has more variety and content to satisfy an increasing number of users. Videotex was not a product that could present such a favourable profile at any time in its history. Time will tell whether consumers will use Web TV as intended, or whether in fact the consumers will modify the service and reinvent it, the way Videotex was reinvented.

Interestingly the reference Library trend seen by Videotex is starting to happen on the Web today. Fidler (1997:112) finds that a great majority of consumers are likely to remain content with the array of media and telecommunications technologies currently

available to them (newspapers, radio, television), until they perceive clear and compelling reasons to adopt new forms of cybermedia. In other words, the mere presence of content on-line does not ensure the attraction of consumers.

Although the presence of newspaper publishing on the Web has increased dramatically in the United States, from less than 100 at the beginning of 1995 to 2544 today, Lascia (1998) found that over 90% of these Web sites lost money in 1996. A number of newspapers have tried to charge for subscriptions to their Web site. However most have found consumers unwilling to pay, generally because consumers can find what they are looking for elsewhere.

In the 1980s, many large daily newspapers considered Videotex to be the technology of the future, one that would boost an industry that was suffering from stagnating circulation and rising newsprint costs. Videotex however, was a technology trying to drive the consumer market and failed primarily owing to a lack of interest. Today, newspaper publishers are again looking at a similar technology, substituting the Internet and World Wide Web for failed Videotex experiments like Knight Ridders Viewtron and Times Mirrors Interactive TV.

Fidler (1997:145) argues that the news industry's focus on on-line interactivity is misguided. He contended that the need for real time interconnectivity is a vital necessity for academics and business professionals, but that it will not attract the average family man. Even so, considerable money will be spent developing diverse Web and interactive

television services that people will neither want, nor are willing to pay for. Ultimately the possibility of newspapers investing heavily on the Web with little return may prove to be a harsh reality in the New World that publishers will have to negotiate.

The 7th Web survey (1997) from Graphic, Visualization and Usability (GVU), a part of Georgia Tech, found that 86.03% of Web users use the Web to gather information. However, that does not mean news. A similar survey, the 1997 Price Waterhouse Consumer Technology Survey found that Web users spend 77% of their time accessing the Web to gather information (43%) and send or receive e-mail (34%). Other uses included entertainment such as playing games (9%), reading magazines and newspapers (5%) and participating in on-line shopping (1%). An important point here is that reading newspapers and magazines accounts for only 5% of the time spent on-line. Mantooth (1982:12) found the same amount of time being spent reading newspaper articles more than 15 years ago with the Videotex project. Web publishers should be aware of their findings, in that the Web is showing a number of similarities to the Videotex project from the early 1980's.

The Price Waterhouse survey also found that an average of 4.2 hours (252 minutes) per week were spent on-line by these households. Based on the results from the Price Waterhouse survey, Web users spend about 50 minutes a day accessing the Web, but only 5% of that time looking at a newspaper Web site. Users quickly check the headlines, then move onto something else on the Web. This is clearly not what electronic publishers had intended. If the Web is to be seen as a serious competitor to traditional printed news then

usage will have to be encouraged and the reading of news on the Web will have to become part of people's lives, much like traditional printed news is. Electronic news is such a new and dynamic medium that it is virtually impossible for publishers to predict the next stages, but reinvention of the Internet and indeed of electronic news is a factor that must be taken into account and monitored very closely to gauge trends and sentiments towards electronic news via the Internet.

4.2. SUMMARY

Chapter 4 deals with the concept of reinvention. In chapter 3, the stages through which a consumer moves in the decision to adopt or reject an innovation are described. In chapter 4, the literature looks at how consumers potentially adopt an innovation only to remodel it to suit their own personal requirements. This "reinvention" as it is known, is particularly prevalent in technological innovations where complexity is often an issue. There are many examples to cite when referring to technological innovations that have been reinvented. The example of Videotex services is a particularly good one because of its similarity to the Internet of today. Early developers of Videotex services imagined that the innovation would diffuse in the way that they had designed it - as an interpersonal electronic news service. What they failed to anticipate was the degree of reinvention that would take place. Instead of using Videotex as an information source as its developers had anticipated, consumers used the service to send messages to each other and as a sort of a reference library, obviously quite unrelated to its original purpose. What is interesting is that a similar reference library trend is being seen with the Internet

today as consumers seem quite satisfied with the array of alternative news services on offer.

It is impossible to predict if the Internet will be reinvented to the same degree as Videotex and conducting research into the issue seems unhelpful as consumers often do quite the opposite of what they said they would do. In an effort to counter reinvention, electronic news publishers need to keep the service as simple and as comprehensible as possible and react quickly to changing consumer habits towards the medium.

Consequently, the next chapter deals with the research design implemented to study the factors affecting a consumer's decision to read electronic news via the Internet and how this affects the consumers' relationship with traditional printed newspapers.

CHAPTER 5

RESEARCH DESIGN

5.1. INTRODUCTION

The aim of this study is to determine the factors influencing readership of electronic news via the Internet. The investigation operates in a new field and is restricted by the lack of vast sources of scholarship. For this reason, speculation about the future trends and outcomes is an important undertaking here. While analysis is pertinent in the research and the compilation of knowledge plays an important part in the records reflected in the study, the thesis seeks to open up the field for further research. The purpose would then be to investigate this field through various ways of understanding users and uses of the Internet, especially in the electronic media and the news.

Possible shifts in time spent reading electronic and printed news and the status of printed news in the changing news environment are also investigated.

In order to achieve this aim, readers of electronic news were probed on their current usage of the medium and the factors, which could influence future usage. Netassets.co.za, one of South Africa's most well established and reputable news sites was selected as a suitable host domain and a questionnaire was placed on-line for a period of 8 weeks, investigating electronic news readership and factors influencing the readership of the selected site.

To prove or disprove the factors that influence the readership of electronic news via the Internet, 5 hypotheses were tested.

5. 2. RESEARCH HYPOTHESES

In the research the following hypotheses were investigated and are stated below in both the null and alternate forms.

1. **H₀**: The Decision to read news on the Internet regularly is not related to the perceived relative advantage of the Internet.
H_A: The decision to read news on the Internet regularly is related to the perceived relative advantage of the Internet.
2. **H₀**: The decision to read news on the Internet regularly is not related to the perceived compatibility of the Internet with the individuals needs, values and practices.
H_A: The decision to read news on the Internet regularly is related to the perceived compatibility of the Internet with the individual's needs, values and practices.
3. **H₀**: The decision to read news on the Internet regularly is not related to the perceived complexity of the medium and technology.

HA: The decision to read news on the Internet regularly is related to the perceived complexity of the medium and technology.

4. **H0:** The decision to read news on the Internet regularly is not related to the perceived trialability of on-line newspapers.

HA: The decision to read news on the Internet regularly is related to the perceived trialability of on-line newspapers.

5. **H0:** The decision to read news on the Internet is not related to the perceived observability of on-line newspapers.

HA: The decision to read news on the Internet is related to the perceived observability of on-line newspapers.

The objective of the author is to reject the null hypotheses, and to prove or accept the alternate hypotheses using the statistical testing of responses to factors affecting readership of electronic news via the Internet. The statistical tests to be used are detailed in section 5.8.

5.3. SAMPLE SIZE AND COMPOSITION

5.3.1. Population units of study

Population is the name that is used to refer to the group of people or items that the researcher wants to employ to obtain information (Leedy, 1997:78). In this study the population is the readers of the netassets.co.za web site on the Internet, during the time period selected for recording of on-line responses to the survey.

Importantly, on-line news-readers were recruited generally owing to the newness and complexity of the medium. Undoubtedly, there is difficulty for non-electronic news-readers to imagine the new services offered on-line. Thus completing the questionnaire would be problematic for them and consequently the target group of this study is readers who currently read the news on-line.

5.3.2. Sampling frame

A sample frame is the list of the people or items that belong to the population that the researcher selects for the purpose of drawing the sample (Adams, 1989:99). In this case, a list of the readers of the netassets.co.za web site compiled during the 8 weeks, when the data was collected would have been an ideal source for reference. But such a list is clearly unobtainable, as the technology does not facilitate the collection of such records.

This problem of an unobtainable sample frame is quite common in many data collection situations. This will be discussed in more detail in the discussion of sampling procedures in 5.3.4.

5.3.3. Sample units

Sample units refer to people or items in the population that are selected for observation (Fowler, 1995:34). In this case study, a person that responds to the questionnaire can be regarded as a potential sample unit. The term “potential sample unit” and not “sample unit” is used, because some persons who responded to the questionnaire, were not included in the sample. Exclusions were made when responses were incomplete.

5.3.4. Sampling procedure

The process of selecting a subset of data from the population of interest is called sampling (Leedy, 1997:89). There are many sampling procedures open to the researcher and the following is a discussion of the most commonly used methods.

5.3.4.1 Random sampling

In this method, the members of the population are listed according to some characteristic not related to the study. For example, the researcher may utilise a list in alphabetical or chronological order. Hence each member of the sample selected for study is, accordingly,

given a number, which allocates each name a place, that becomes affixed to a designated number on the list e.g. the first member becomes no.1, the second member is assigned no.2 etc. With such an allocation, the members of a population of, for instance, 100 000 will be allocated numbers from 1 to 100 000. Thereafter, a sample size is selected. In a random sample every unit has a known and equal chance of being selected. The exact size of the sample determines the random numbers between 1 and the population size, which the researcher then generates on a computer. For example, a population with 100 000 members and a sample size of 100, will generate 100 numbers between 1 and 100 000. The members of the population that are associated with these selected numbers can be regarded as the sample units. The sample values are the information obtained from the sample units.

5.3.4.2 Systematic sampling

In this method, the allocation of numbers to the members of the population, is the same as that described in random sampling but the method of selection of the sample is different as the first number of the sample is determined by generating a random number (Fowler, 1995:37). Once more, the random numbers are generated by computer-as was previously explained in the reference to random sampling. Importantly, the same methodology is applied for the way that numbers are allocated to a sample. The sample size is expressed as a fraction of the population size, for example, a sample size of 100 is one thousandth of a population size of 100 000. This fraction's size is added to the number first generated to obtain the next number. This addition of the fraction size to the previous number

obtained is subsequently continued until all the units in the sample are given an allocated number.

For example, if the first number generated in the population referred to is 80919, then the fraction size of 1 000 is added to this number, which then produces the next number, in the list, which is 81919. Thereafter, the repetition of the sequence (1 000 added to each successive answer) gives the numbers 82919, 83919, . . . , 99919, 00919 (not 100919 because it will exceed 100000), 01919, . . . , 79919 which forms the 100 selected numbers.

The members of the population that are associated with these selected numbers can be regarded as the sample units. The sample values are the information obtained from the sample units (Fowler, 1995:45).

5.3.4.3 Stratified sampling

This sampling method is appropriate in cases where the population can be subdivided into categories (Leedy, 1997:93). In order to ensure that each category is proportionately represented in the sample, a random sample of proportionate size is selected from each category and the samples for the categories are combined to form one sample. The proportion that each category contributes towards the overall sample, is usually proportionate to the members that comprise the population (Leedy, 1997:93). The criterion for stratification should be relevant to the study.

5.3.4.4 Quota sampling

This method is commonly used in the absence of a sample frame (Adams, 1989:101). The sample will include all people or items that have a certain characteristic, in this case readers of the netassets.co.za web site. When a certain number of individuals is obtained, the grouping is called a quota. The quota sampling method can also be adapted to allow for sampling from a stratified population through the specification of sub-quotas (Adams, 1989:105).

5.3.4.5 Cluster sampling

Cluster sampling is a sampling method that is used when no sample frame, from which the sample can be selected, is available. Instead of selecting the members of the sample on a scientific basis (when e.g. drawing a random or stratified random sample), all individuals that can be located and have characteristics that suit the need of the issue under investigation are included in the sample. These individuals can be thought of as occurring in clusters throughout the population. One can also think of cluster sampling as an approach towards obtaining a sample under the restriction that the sample frame is not known.

5.3.4.6 The sampling method used in this study

To enable effective usage of random sampling, systematic sampling and stratified sampling, one needs to utilise a sample frame. Owing to the absence of a sample frame as previously discussed, the usage of any of the former and latter methods was impossible. Consequently, the sample was obtained by setting a target number of responses. The selected group of 300 was used for this study. Thereafter a process of deleting the incomplete responses from the initial 300 responses then left 267 responses. The method of sampling used in this study can, therefore be regarded as censored quota sampling.

The majority of statistical testing techniques, including the ones used in this study require that the sample adopted, is a random sample. However, there are many situations where the sample frame is unobtainable and therefore a random sample cannot be obtained in the scientific manner described in 5.3.4.1. Samples obtained via non-random procedures are thus treated as random samples and analysed as random samples, especially if there are sufficient indications that the samples are free of bias and representative of the population, with respect to the issues that are under observation (Fowler, 1995:54).

The above-mentioned process is examined in the next section of this dissertation.

5.3.4.7 Bias

There are two types of bias that may be manifested in a selected sample. Selection bias is present when the population selected for sampling, is an unrepresentative subgroup of the population that the researcher is really interested in observing. Non-response bias is present when the part of the population that does not respond, in a survey, is different from the part that does respond (Bradbaum, 1980:87). For example, dissatisfied customers that return a questionnaire on the performance of an appliance, are very evident samples for analysis, while satisfied customers do not usually respond.

The only decisions taken when the sample was selected, in this study, was to limit the number of responses to be considered for inclusion, in the sample, to 300 and the principle to delete the incomplete responses was adhered to in the research. A more complete discussion of these issues follow below as “validity of sample size” in section 5.3.4.8. These selection decisions are not related to any characteristics of the population studied here. Therefore, the sample is free of selection bias.

The sample does not contain any non-response bias either, as the independent South African Business Research Evaluation (1999) study on Internet users indicates that Internet users in South Africa have the following characteristics:

- 74% have a University or Technikon education.
- 37% earn in excess of R20 000 per month and 80% are managers at work.

- 89% are between the ages of 25-49 years.

The above findings form an interesting comparison, if the information generated in this study, is correlated in a diagrammatic representation, in the following table:

TABLE 5.1. Selected demographic information – sample versus population

Variable	Aspect	Sample %	Population %
Education	University or technikon education	68	74
Income	Earn above R20 000 per month	34	37
Position	Managers at work	80	80
Age	Aged 20 – 49	93	89

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From the information contained in the variables in the above table, seemingly, the notion that the non-responding members of the population differ from the sample members, is invalid. The sample can, therefore, be treated as a random sample, in the sense described previously.

5.3.4.8 Validity of the sample size

There are relatively few sampling situations where a sample size can be theoretically validated. In this case study theoretical validation is not possible. One principle that can be followed in all sampling situations is “the larger the sample size the more valid the

conclusions” (Bradbaum, 1980:91). Thus if one assumes that the sample the researcher works with is approximately random:

- then the results are more accurate when larger samples are used
- the sample should be large enough to satisfy the sample size requirements of all the statistical tests that the researcher intends to perform on the data.

In this study a sample size of 267 is deemed adequate for scientific conclusions to be drawn.

A sample size, which is large enough to distinguish readership patterns, in the tables of counts, was also a requisite for this particular study. It is clear from the results in chapter 6 that 267 observations were sufficient to distinguish patterns in the tables. Hence, the tabular representation of the distinguishing patterns is an acceptable assumption, which adheres to universally accepted methodology. These arguments evidently verify that the sample size is sufficiently large for the construction of valid conclusions and to detect readership patterns distinctly.

The next section observes the variables or factors that are later tested in the study. Recognition of the corresponding operational measures practiced in the questionnaire and adopted for the testing of these variables is acknowledged.

5.4. MEASURES OF VARIABLES

The five hypotheses stated previously relate to the variables below. In each instance the variable is explained fully. The operational measures used to determine the validity of the factor, as significantly affecting a consumer's decision to read news, in electronic form, is highlighted.

Variable 1

Relative advantage: This refers to the degree to which potential consumers perceive electronic news as having certain advantages that are preferential to other forms of news. The advantages offered will increase the likelihood of the acceptance of the innovation, in direct proportion to the relative advantage perceived by the users.

The operational measures used to test the above variable are:

- *Personalised* automated request queries. In other words readers receive custom tailored news content.
- *Connectivity* to the editor, businesses and other readers.
- *Interactivity* in the form of video clips, audio clips and animation of stories.
- *More up to date news* than offered by traditional paper printed news.
- *Links* to related sites via the electronic news edition.

Variable 2

Compatibility: refers to the degree to which consumers feel electronic news is consistent with their present needs, values and practices. The greater the degree of compatibility, the greater the likelihood of consumers adopting and using the new innovation.

The operational measures of compatibility are applicable if electronic news:

- becomes the *fashionable and current way of accessing news*.
- contains items that are considered *essential reading*.
- becomes an *essential tool for business*.

Variable 3

Complexity: This refers to the degree to which electronic news is easy or difficult to understand or use. The less complex a product, the more likely it is that the consumer will adopt and use the innovation.

The operational measures of complexity are applicable if electronic news sites:

- used *software that is user-friendly*.
- are *easy to negotiate*.
- had a *similar look and feel* to the print forerunner.

Variable 4

Trialability: refers to the degree to which a new product is capable of being tried on a limited basis. The greater the trialability, the greater the likelihood of the innovation being adopted and used.

The operational measures of trialability are applicable if electronic news:

- were *free of charge*.
- could be *easily accessed*.

Variable 5

Observability: is the ease with which a product's benefits or attributes can be observed, imagined or described to potential consumers. Products that have a high degree of social visibility are more easily diffused than products that are used in private.

The operational measures used to test observability are applicable if the Internet became:

- the *current trend*.
- *part of a daily routine*.

The next section examines the data collection methods used in this study. Both the advantages and disadvantages of this methodology are presented.

5.5. DATA COLLECTION

Many possible methodological practices exist, for the accurate collection of data. There are traditional methods such as: personal interviews, telephone interviews and mail questionnaires, available to the researcher.

However, readers of on-line news are familiar with the electronic transfer of information. Thus the opportunity arose for the utilisation of a new method of data collection, whereby respondents were recruited via the Internet and were asked to transmit responses electronically. The electronic transfer of information is quick, efficient and cost effective and consequently offered an excellent means of receiving feedback from respondents. The questionnaire was HyperText Markup Link (HTML) coded and placed on line and respondents merely had to click, in the appropriate boxes, to answer the questions. Once all questions had been answered, respondents clicked the instruction to submit the form, which was then electronically posted to the author. Thus no paper was used in the collection of the responses and the entire research component of the paper was conducted electronically.

This method of data collection is superior to the traditional methods for the following reasons:

- The transfer of information is extremely rapid, unlike mail questionnaires.
- The coded questionnaire is easy to complete as the respondent merely has to click on the appropriate box.
- The electronic research form is convenient, since the respondent submits the questionnaire by merely clicking on the “submit” button, whereupon the form is electronically posted to the author. Thus no envelope and postage is required.
- The electronic transfer of information is extremely cheap. As per normal Internet access, the price of a local telephone call is all the user pays and when one considers the average time taken to fill out a questionnaire, which is only seven minutes in this instance, the cost effectiveness of this method becomes obvious.
- All responses were automatically entered into a spreadsheet format as they were submitted and thus the counting and collating of the responses was extremely efficient. This methodology is clearly superior to the mail survey and the telephone survey, where responses have to be collated, sorted and then processed before any meaningful data can be gleaned.
- The questionnaires were completely anonymous and respondents were thus encouraged to be open and honest with their answers.
- The questionnaires were not perceived as junk mail because they appeared on a highly reputable web-site and there was no obligation to answer.

- The questionnaires were not intrusive like telephone and personal interviews and the respondents could fill the answers in their own time and at their own pace.
- A final advantage of this method is the fact that the results of the survey could be made available on the same web-site where the questionnaire was filled in. This fact is easily communicated to respondents via the web-site. Traditional methods cannot offer such facets and the electronic method thus offers new benefits.

A potential shortfall of this method of data collection is the limitation of access to Internet users, although there were specific advantages in this case, as the study is entirely concerned with Internet usage.

In addition, although the responses were received in spreadsheet format they still had to be coded and entered into the statistical programme for data analysis. It is not inconceivable however, that in the future the responses could be received in a pre-coded format, which would save a great deal of time and effort. In the latter situation, the data could be automatically and electronically entered into the statistics programme.

In the next section, the placement of the questionnaire on-line is described and critically examined.

5.6. DESCRIPTION OF THE QUESTIONNAIRE

The primary objective of the questionnaire was to test factors, which could influence readership of electronic news via the Internet. Possible shifts in time spent reading electronic and printed news, and the status of printed news in the changing news environment, were also investigated.

The questionnaire took approximately seven minutes to complete, which was greatly facilitated by the electronic technology utilised. Respondents merely had to click on the appropriate boxes with their cursor and then move onto the next question. The questions were closed, for respondents were required to offer particular answers within the predetermined parameters that were set. Furthermore there was also a section of the questionnaire where respondents were invited to offer their own reasons for reading more or less news in electronic form. However, the two open questions were not used for the statistical analysis as the results were not quantifiable. When the questionnaire was complete, respondents clicked submit and the responses were transferred to the author.

Respondents were first asked:

- to indicate how many hours per week were currently spent reading electronic news;
- to estimate their intended future consumption of electronic news;

- to indicate their current and intended weekly printed news consumption to test whether additional future electronic news consumption will have an impact on the new medium, which was a secondary objective of the questionnaire.

The primary objective of the research is to determine the factors that influence diffusion of electronic news via the Internet. Consequently, respondents were asked a series of 15 questions. Each question related to the variables discussed in this model, i.e. the relative advantages that electronic news has, which makes the new medium the preferred choice for users in preference to printed news, the compatibility of the medium, its complexity, the trialability of on line news and its observability.

Respondents were required to indicate whether these variables would make them read more electronic news. They were also required to indicate the extra time they would devote to reading electronic news, as a result of these factors. It was felt initially that all factors would contribute to more intended readership of electronic news but some variables would inevitably increase readership more markedly than other variables. Respondents were also afforded the opportunity to provide their own commentary regarding on-line news readership and the factors which could influence this readership.

Questions 1 through 5 related to the variable of relative advantage. Questions pertained to custom-tailored news content, the interactivity of electronic news, access to related sites as a result of reading electronic news and instantaneous news updates. The objective of these questions was to establish the relative advantages of electronic news, in relation to

other forms of news. In addition the researcher attempted to assess how this would influence on-line readership.

Questions 6 through 8 addressed the variable of compatibility. Questions were asked, which related to considering on-line news as the current and fashionable way to read news, the belief that the Internet is becoming an indispensable business tool and the fact that on-line news often contains items that cannot be found in printed news. These questions were posed in order to determine whether the respondents current beliefs and values influenced readership of electronic news.

Questions 9 through 11 addressed the variable of complexity, and questions were asked to test whether the complexity of on-line news was a significant factor that affected electronic news readership. Question 9 examined the issue of Internet software and the fact that many people find the technology complex and difficult to understand. Question 10 covered the issue of on-line news sites, as difficult to navigate. Finally question 11 investigated the issue of the press making on-line news sites look more like their print forerunner.

The next two questions related to the variable of trialability and the fact that on-line news gave the user the opportunity to try the service in a fast and effective manner before committing to it. These questions were asked to establish if trialability would influence readership of on-line news. Questions 12 and 13 raised the issue of on-line news existing

as free, faster and easier to access via one's computer. The indication is that these two factors will greatly influence the diffusion of electronic news via the Internet.

The penultimate and final questions, 14 and 15 investigated the variable of observability and whether the decision to read electronic news was affected by the fact that the Internet is a current trend and a fashionable media tool. Question 14 probed the issue of on-line news becoming the accepted way of reading news and question 15 dealt with the issue of on-line news, like newspapers, becoming part of a daily routine for users.

The second part of the questionnaire considered the issue of newspaper readership, and whether on-line readership affected this medium. Respondents were asked to indicate whether they would continue to read newspapers to the same degree since they had the option to read news electronically. To probe these factors, a five-point scale was used and 6 questions were asked on the above-mentioned issue.

A printed copy of the electronic questionnaire is attached as appendix 1.

5.7. PILOT STUDY

In order to test the questionnaire, a pilot study was conducted. Twenty questionnaires were circulated among current Internet news-readers and the results were subjected to statistical analysis using the following techniques:

- Cross tabulations to make deductions about readership patterns.
- Descriptive statistics to check the relative importance of the variables, adopting means and standard deviations.

The following modifications were made as a result of respondents' recommendations:

1. A question dealing with electronic news as part of a daily routine was included.
2. A further question addressing the ability to read printed news in an informal environment was included.
3. Two of the questions were amended to eliminate ambiguity for the readership.

All the variables tested were shown to be significant, as factors that could potentially affect a consumer's decision, to read electronic news via the Internet.

Interestingly, the pertinent question suggested by the pilot study that related to users' ability to read news in an informal environment, has once again occurred as a finding in the final analysis of the research results. Importantly, the informality of the reading

environment has emerged as the single most important variable in the decision of readers to continue reading printed news.

The cross tabulations, which were demonstrated on printed and electronic news, indicated a general shift towards users reading more electronic news and static printed news in the future. This correlation of results is remarkably consistent with the findings suggested in the final analysis.

The next section of the paper examines the statistical techniques used to analyse the data generated by the research tools. While the field selected for research is virtually undocumented and this research, in many ways, is ground breaking in the uniqueness of the investigation, the necessity to adopt both scientific rigour and also imaginative speculation has become the dominating factor of the project.

5.8. STATISTICAL TECHNIQUES

Statistical techniques used in the study include the following:

- Cross tabulations, to establish two-way tables for chi-square tests and to make deductions about readership patterns.
- Chi-square tests, to test for association between the difference in printed hours (the difference between current and anticipated printed news readership) and the relevant variables in the questionnaire. Similarly, chi-square tests were also used to test for the association between the difference in electronic news readership (the difference between current and anticipated electronic news readership) and the variables in the questionnaire.
- Descriptive statistics, to check the relative importance of the variables, for investigation of the means, standard deviations and frequencies. Descriptive statistics are also used for summarising the sample population, according to the demographic variables.
- T-test, to test for zero means.
- Stepwise regression, to form a regression equation by selecting explanatory variables from the variables that are relevant to the situation.
- Pearsons correlation matrix, to determine the degree of linear dependence among the demographic variables.

The exact nature of the techniques employed are elaborated on below.

5.8.1. Two-way cross tabulations

These are frequency tables that involve a classification of observed pairs of responses according to two variables, in other words, a row and column classification (Champion, 1981). Each pair of observed responses is allocated to a cell or a category combination corresponding to a row and column entry. The completed table is a count of the number of responses in each cell. The general layout of the table is as follows:

Variable 1 category	Variable 2 category	1	2	.	.	.	c
1		f_{11}	f_{12}				f_{1c}
2		f_{21}	f_{22}				f_{2c}
.							
.							
r		f_{r1}	f_{r2}				f_{rc}

In the above notation r is the number of categories for variable 1, c the number for variable 2. and f_{ij} the count or frequency of the cell corresponding to the i th row (category of variable 1) and the j th column (category of variable 2).

5.8.2. Chi-square test of association between two variables

This is a statistical test that is performed to test whether or not two variables are associated (Champion, 1981). The data is summarised in the form of a two-way cross tabulation as explained in 5.8.1. When performing the test the statistic

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c (f_{ij} - e_{ij})^2 / e_{ij}$$
 is calculated, where f_{ij} , r and c are as explained above and e_{ij} is the frequency expected for the (i,j) th cell under the assumption that the variables are not associated. A small value of χ^2 will be evidence in support of no association between the variables, while a large value will be evidence to the contrary. The conclusion reached, whether there is no association or otherwise, is based on the calculation of the p-value or the probability of getting a value greater than or equal to the observed χ^2 . A relatively large p-value, usually in excess of 0,05 is taken as support for the “no association” conclusion, while a relatively small value of below 0,05 is evidence in favour of a linear association between the variables. The calculation of the χ^2 statistic and its associated p-value were assessed with the aid of a statistical computer software package.

5.8.3. Basic descriptive statistics

- Frequency distribution :

This is a table that is constructed by allocating each observed response of a single variable to a category of the variable (Adams, 1989:69). The completed table shows the categories together with the number of responses or frequency in each category. The percentages of responses or percentage frequencies for the categories usually show a

clearer pattern of how the values are distributed and are usually conveyed as part of the table.

- Mean :

This is the average of a number of values that are measured on a numerical scale. The mean is usually a good measure of the centre of a data set (Adams, 1989:69).

- Standard deviation :

The standard deviation is based on the squared differences between the individual values of a data set and the mean (Adams, 1989). Standard deviation is considered to be a good measure of the spread or extent of deviation from the mean, for bell shaped data. Bell shaped data has the majority of values clustered in the middle of the scale, with fewer and fewer values towards the extremes.

5.8.4. The t-test for the mean (One Sample)

This is a test that is used to determine whether the mean of a population, from which a number of responses were obtained, could be equal to some expected value (Champion, 1981:14). The form of the statistic that is used to test this is:

$$t = (\text{mean of responses} - \text{suspected mean}) / \text{standard error of mean of responses}$$

A small value of t is evidence in support of the expected value being the population mean, while a large value of t is evidence to the contrary (Adams, 1989:21). The conclusion reached is based on the calculation of the p-value or the probability of getting

a value greater than or equal to the observed t. value. A relatively large p-value, usually in excess of 0,05 is taken as support for the “suspected mean is population mean” conclusion. Yet a relatively small value of below 0,05 is evidence in favour of “the population mean, which is some value other than the suspected value” conclusion. The calculation of the t statistic and its associated p-value were completed with the aid of a statistical computer software package.

5.8.5. Stepwise regression

This is a technique that is used to form a linear equation that can explain the behaviour of some target variable known as the response variable in terms of changes in one or more other variables known as explanatory variables (Champion, 1981:16). The technique involves the selection or removal of explanatory variables via the performance of entry and exit tests. This procedure is terminated when no more variables can be entered or removed from the equation. The value of R-square is a measure of how well the explanatory variables explain the behaviour, in a linear sense, of the response variable (Leedy, 1997:98). The R-square should be fairly close to one if the explanatory variables explain the behaviour of the response variable well. Since the data that was collected in the study was not measured on a continuous numerical scale, the technique selected proved to be unsuccessful in establishing relationships between variables. Evidently the R-square value for the selected equation is also too low. The selection procedure was achieved with the aid of a statistical computer software package.

5.8.6. Pearsons correlation matrix

The Pearson coefficient of correlation between two variables is a standardised measure of the strength of the linear relationship between them (Champion, 1981:16). It is measured on a continuous scale with values ranging from -1 to 1 . The formula for calculating the coefficient of correlation can be found in any textbook on elementary statistical methods. When several variables are studied, as in this case, the relationship between the variables is explored by calculating the coefficient of correlation between each pair of variables. The results of these calculations, with k variables are summarised in the following way:

Correlation between variables i and j

	Variable j	1	2	3	.	.	.	k
Variable i	1	1						
2		e	1					
3				n	1			
.					t			
.						r		
.							i	
.								e
.								s
.								
k								1

The diagonal entries in the above table, called a correlation matrix are all equal to 1 , since a variable is perfectly correlated with itself. The rest of the entries, in other words, the correlation between variables i and j , appear in the part of the table that is below the diagonal consisting of the 1 's. Since the correlation between the variables i and j is the same as that between variables j and i , the upper part of the correlation matrix or above the diagonal of 1 's is usually left blank (Champion, 1981:19).

5.9. SUMMARY

In chapter 5, the null and alternate hypotheses to be investigated in the study were discussed. The variables used to test the hypotheses were fully demonstrated as were the operational measures that were developed in the questionnaire. The concepts of population, sampling frame and sampling procedure were examined extensively and the research approach taken in this study was highlighted.

Data collection in an on-line environment is facilitated by the electronic transfer of information and both the advantages and disadvantages of this new technique were discussed in chapter 5.

The electronic questionnaire was primarily developed to probe the factors which could influence readership of electronic news via the Internet and in total, 15 questions were examined in this regard. As a secondary objective of the study, continued readership of printed newspapers was also investigated and 5 questions, about this topic, were surveyed. The development of the questionnaire and the questions to be probed were accounted for in this section.

In order to check the validity of the variables tested and the effectiveness of the wording of the questionnaire, a pilot study was conducted and this was discussed in the chapter.

Recommendations and changes to the questionnaire as a result of the pilot study were emphasised.

Finally, a brief description of each statistical technique employed in the study was provided.

The next chapter reflects specifically on the research findings and whether or not the study is successful in proving or accepting the alternate hypotheses and in rejecting the null hypotheses.

CHAPTER 6

ANALYSIS OF RESEARCH

6.1 INTRODUCTION

The research component of this paper was conducted between October and November of 1999. A computer-generated questionnaire was placed on-line for a period of six weeks, and respondents had the opportunity of filling in the questionnaire whilst retrieving their on-line news from netassets.co.za, one of South Africa's premier on-line news sites. A banner advertisement on the news site announced the presence of an on-line news survey. Readers were encouraged to fill in the questionnaire and although responses were initially quite low, by the end of six weeks, over 300 responses to the questionnaire had been received.

6.2 DATA USED FOR RESULTS

For the analysis, 309 replies to the electronically generated questionnaire were coded and entered in the STATISTIX computer software programme. Thereafter 42 replies (cases) which were incompletely answered were omitted. Therefore the total number of cases analysed is 267. Each reply comprised 32 variables and thus in total, over 10 000 variables were coded and entered into the computer program.

The next section deals with the analysis of the variables and the interpretation of the results from the questionnaires.

6.2.1 Data analysis

6.2.1.1 Demographic variables

There were 4 demographic variables investigated in the questionnaire, age, education, income and position at work, and these were included to determine the nature of the population and whether this affected the results of the questionnaire in any way.

TABLE 6.1: Frequency distribution of age

Value	Frequency	Percentage	Cumulative frequency	Cumulative percentage
1 (BELOW 20)	4	1,5	4	1,5
2 (21-30)	78	29.2	82	30.7
3 (31-40)	111	41.6	193	72.3
4 (41-50)	59	22.1	252	94.4
5 (51+)	15	5.6	267	100
TOTAL	267	100		

This Table illustrates the number of respondents per age category, and the percentage this represents in terms of the total sample. The cumulative frequencies and percentages are

the summation of these figures. It can be seen from this Table that 41.6% of all respondents were between the ages of 31-40 years, and a further 29.2% were between the ages of 21-30 years, indicating that Internet users are likely to be younger than the average age of the business market.

TABLE 6.2: Frequency distribution of education

Value	Frequency	Percentage	Cumulative frequency	Cumulative percentage
1 (Less than matric)	3	1.1	3	1.1
2 (Matric)	82	30.7	85	31.8
3 (Degree/ diploma)	115	43.1	200	74.9
4 (Honours degree/diploma)	52	19.5	252	94.4
5 (Masters degree)	15	5.6	267	100
TOTAL	267	100		

This Table shows the number of respondents according to the education brackets as specified in the questionnaire. The frequency is the respondent count per education

criteria and the next column shows this figure represented as a percentage of the total sample. The cumulative frequency and percentage is a summation of these figures. We can see from this Table that over 43% of the sample have at least a degree or a diploma and a further 25.1% have some form of a higher degree. Only 1.1% of respondents have less than matric as their highest qualification. One would assume therefore that Internet users in South Africa are highly educated, and as shown earlier in the study, this is indeed the case.

TABLE 6.3: Frequency distribution of income per annum

Value	Frequency	Percentage	Cumulative Frequency	Cumulative percentage
1 (Less than R60 000)	15	5.6	15	5.6
2 (R61 000- R110 000)	34	12.7	49	18.4
3 (R111 000- R160 000)	30	11.2	79	29.6
4 (R161 000- R210 000)	40	15	119	44.6
5 (R211 000- R260 000)	58	21.7	177	66.3
6 (R261 000- R310 000)	46	17.2	223	83.5
7 (R311 000- R360 000)	27	10.1	250	93.6
8 (More than R360 000)	17	6.4	267	100
TOTAL	267	100		

This Table shows the number of respondents per specified income criteria. The frequency is the number of cases per income bracket, and the next column shows this figure represented as a percentage of the total sample. The cumulative figures are a summation of the frequency and percentage totals. This Table illustrates the finding, discussed earlier in the paper, that Internet users in South Africa are amongst the highest earners in society. The Table shows that over 55% of Internet users in the sample earn over R211 000 income per annum, and 17.2% earn between R261 000-R310 000 per annum.

TABLE 6.4: Frequency distribution of position at work

Value	Frequency	Percentage	Cumulative Frequency	Cumulative percentage
1 (Clerical)	14	5.2	14	5.2
2 (Junior manager)	39	14.6	53	19.9
3 (Middle manager)	93	34.8	146	54.7
4 (Senior manager)	85	31.8	231	86.5
5 (Company director)	36	13.5	257	100
TOTAL	267	100		

This Table shows the number of respondents in terms of their official designation, as specified. The frequency is a count of the number of respondents and the percentage column is this number represented as a percentage of the entire sample. The cumulative columns are a summation of these figures. These figures would suggest that Internet users are, in the main, managers at work, with 34.8% being middle managers and 31.8% being senior managers. Furthermore, 13.5% described themselves as company directors, indicating the senior positions at work which these people hold. The themes alluded to in the Tables are discussed more fully in the following section.

6.2.1.2 Features of variables

The vast majority of respondents, 92.9%, are between 20 and 50 years of age, and are well educated in that 98.9% have matric or higher and 68.2% have a degree/diploma or higher. The majority of respondents have a high income as 81.7% earn more than R110 000 per annum and the vast majority have some kind of managerial position at work with 94.8% being junior managers or higher.

This is consistent with what was found in the literature survey. When comparing the SABRE (1999) study with the present findings, there appears to be a common trend which reveals that Internet users in South Africa are very well educated with over 74% being university or technikon graduates. In addition to this, 21% have at least a Matric and the balance have attended universities or technikons.

Further, 93% have a household income in excess of R8 000 per month and 37% have a monthly household income in excess of R20 000 per month.

Eighty percent of Internet users in South Africa are managers, with 43% comprising top management.

Fifty one percent of all Internet users in South Africa are between the ages of 35-49 and 89% are between the ages of 25-49 years.

This is compared to the demographic results generated from this study. Ninety two percent of respondents are between the ages of 20 and 50 years, 68.2% are university or technikon graduates, 98.9 have at least a matric education, 81.3% earn over R9 000 per month gross income and 80.2% are managers with 45.3% comprising top management. One can thus see how the population from this survey closely matches the findings in the SABRE report.

6.2.1.3 Correlations among variables

Contrary to what one would expect, the variables are not highly linearly correlated.

TABLE 6.5: Correlations (Pearson)

	AGE	EDUCATION	INCOME
EDUCATION	0.1340		
INCOME	0.5449	0.3396	
POSITION AT WORK	0.6238	0.3051	0.6895

This Table demonstrates the correlations amongst the variables, age, education, income and position at work. As may be seen from Table 6.5, even the highest correlation, position at work versus income (0.6895) is only moderate in size. This could be due to differing definitions of what comprises top, middle and junior management as well as discrepancies in remuneration between different companies. It might be said that nowadays there is a great premium on achieving an education in order to succeed in business, but this was not always the case and one might find that many of the older respondents have senior positions at work without the commensurate education levels. It also might be argued that age is no longer a discriminator when it comes to the position one holds at work, or the type of income one is entitled to.

In the next section, readership habits are probed and respondents are asked to indicate their preference for either printed news and electronic news, both now and in the future.

6.3 VARIABLES ASSOCIATED WITH READING TRENDS

In order to test the direction of preference for either electronic news or printed news amongst Internet users, questions pertaining to current readership and intended readership were asked.

There were 4 variables that were tested and these were the number of hours spent on printed news, electronic news and the anticipated time to be spent on both the printed news and the electronic news in the following year. Respondents were required to indicate their current and anticipated printed and electronic news readership in terms of hours, ranging from 0, 1-3 hours, 4-7 hours and 8 or more hours per week. One cannot refer to a mean value of 1-3 hours, therefore a representative value of the number of hours was used. For instance, 1-3 hours was given a value of 2 hours, 4-7 hours was given a value of 5 hours and 8 or more hours was given a value of 9 hours. A simple cross tabulation was used.

TABLE 6.6: Cross tabulation of current printed hours (CPH) with anticipated printed hours (APH)

		APH				
		0	2	5	9	TOTAL
0		10	5	0	0	15
2		17	108	20	2	147
5		9	7	62	4	82
9		2	1	2	18	23
TOTAL		38	121	84	24	

CPH

6.3.1. Features

Table 6.6 indicates that 74% of readers of printed news will mostly read the same number of hours as before. This is calculated by adding up the responses that indicate no change in their anticipated readership, represented by the shaded line. 12% will read more printed news, represented by counting the responses above the shaded line and 14% will read less. The people who will read less printed news fall below the shaded line. There appear to be a few cases where large differences exist between the hours spent currently and in the future on printed news. The data obtained in this study indicates that printed news will probably maintain its readership or only show a slight decline. This is confirmed by the average value for the difference between anticipated and current print

readership (dph). The average is -0.118 with a paired T-test value of -0.93 which shows that the mean of the difference between anticipated and current readership is not significantly different from 0. This is illustrated in Table 6.7. It must be pointed out that this prediction does not take into consideration further improvements to the Internet, such as speed of access, content changes and different formats.

TABLE 6.7: Descriptive statistics of the mean difference between anticipated and current readership of printed news

N=267

VARIABLE	MEAN	STANDARD DEVIATION
DPH	- 0.1180	2.0634

T=- 0.93

In contrast to the above, Table 6.8 indicates that 42% of readers of electronic news will read more than before, 52% will read the same and only 6% will read less. This is shown by analysing the responses in the next Table. Those intending to read the same amount of electronic news is indicated by the shaded line, those reading more electronic news, are indicated by the area above the shaded line and those reading less electronic news in the future are shown in the area below the shaded line.

TABLE 6.8: Cross tabulation of current electronic hours (CEH) with anticipated electronic hours (AEH)

		AEH				
		0	2	5	9	TOTAL
0	12	28	1	0	41	
2	10	71	65	1	147	
5	1	5	47	16	69	
9	0	0	1	9	10	
TOTAL	23	104	114	26		

CEH

Electronic news will probably show a substantial increase in readership and this is confirmed by the average value of the difference between anticipated and current electronic news readership (deh). The average is 1.1742 with a paired T-test value of 9.75. This shows the mean of the difference between anticipated and current electronic news is significantly above 0. This is illustrated in Table 6.9.

TABLE 6.9: Descriptive statistics of the difference between anticipated and current electronic news readership

N=267

VARIABLE	MEAN	STANDARD DEVIATION
DEH	1.1742	1.9679

T= 9.75

6.3.2. Complementary effects

In terms of current readership habits, 36% of respondents spend the same number of hours reading printed news and electronic news, 40% spend more time reading printed news and 24% spend more time reading electronic news. This is explained in the following Table where current electronic hours are cross-tabulated with current printed hours. The shaded line indicates the same amount of time spent reading electronic news and printed news whilst the area above the shaded line indicates the number of people that currently read more electronic news. The area below the shaded line indicates those people that currently read more printed news.

TABLE 6.10: Cross tabulation of current electronic hours (CEH) with current printed hours (CPH)

		CEH				
		0	2	5	9	TOTAL
0	1	8	5	1	15	
2	25	74	42	6	147	
5	8	52	20	2	82	
9	7	13	2	1	23	
TOTAL	41	147	69	10		

CPH

In Table 6.11, the corresponding anticipated readership figures show that 40% of the respondents will spend the same number of hours reading printed news and electronic news, 23% will spend more time reading printed news but that 37% will spend more time reading electronic news. One can see that significantly more numbers fall in the area above the shaded line, indicating anticipated electronic news readership is much higher than anticipated printed readership.

TABLE 6.11: Cross tabulation of anticipated electronic hours (AEH) with anticipated printed hours (APH)

		AEH				
		0	2	5	9	TOTAL
0		11	15	7	5	38
2		8	44	57	12	121
5		3	31	46	4	84
9		1	14	4	5	24
TOTAL		23	104	114	26	

APH

Evidently readers still regard the reading of printed news as being significant but intend spending more time in the future reading electronic news. It may be surmised that a long-standing tradition of printed news readership will be difficult to abandon since it often represents a relaxing or leisurely activity.

6.4 VARIABLES ASSOCIATED WITH READING MORE ELECTRONIC NEWS

There were 15 variables in the study that were identified as contributory factors towards increased electronic news readership. These variables are described below together with their codes for easy tabulation.

- If electronic news were custom-tailored to suit your reading requirements, coded as cte in Table 6.12.
- If electronic news gave one an on-line forum (fre)
- If electronic news provided interactive features (ite)
- If electronic news were published instantaneously and was thus more up to date than printed news (cre)
- If electronic news provided access (links) to related sites on the Internet (are)
- If electronic news became the current and fashionable way to read news (cfe)
- If electronic news had to offer interesting items that could not be found in printed newspapers (nfe)
- If the Internet became an indispensable business tool (ide)
- If electronic news utilised software that is easier to use than is currently the case (ese)
- If electronic news sites were easier to negotiate than is currently the case (ene)
- If electronic news had a more similar look and feel to the printed versions of news (lfe)
- If electronic news access was free of charge (fce)

- If news in electronic form were simpler and faster to access via the computer (fae)
- If news in electronic form became the generally accepted way of reading news (gae)
- If news in electronic form became part of one's daily routine (dre)

In the questionnaire, respondents were asked to indicate if the variables would influence their readership of electronic news. They were given the option of saying "none" which would indicate that the variable had no influence on their readership of electronic news. If they believed the variable would influence their electronic news readership, they were asked to indicate, by stating the extra number of hours per week that they would spend reading electronic news as a consequence of the variable. Respondents could answer that the variable would make them read up to an hour more per week, 1-2 hours per week, or 2 or more hours per week. Or alternatively that it would not influence their on-line readership at all.

The following Table indicates the magnitude of the importance of each factor. A mean zero reading would indicate no importance to the factor at all.

TABLE 6.12: Descriptive statistics of the variables associated with reading more electronic news

N=267

VARIABLE	MEAN EXTRA HOURS	STANDARD DEVIATION	T-TEST
CTE	0.9345	0.8652	17.65
FRE	0.9232	0.8242	18.30
ITE	1.0861	0.8938	19.86
CRE	1.3745	0.8497	26.43
ARE	1.1404	0.8736	21.33
CFE	0.8820	0.8329	17.30
NFE	1.4232	0.8511	27.32
IDE	1.5393	0.8732	28.81
ESE	1.1816	0.8756	22.05
ENE	0.9195	0.8949	16.79
LFE	0.9195	0.8949	16.78
FCE	1.5805	0.9390	27.50
FAE	1.5562	0.8718	29.17
GAE	1.2378	0.8993	22.49
DRE	1.3858	0.8688	26.06

For each of the factors the T-test was performed to test whether the increase in the mean electronic time due to that factor is significantly greater than zero. The test statistic used

is $t = \text{mean value} / (\text{standard deviation} / \sqrt{267})$. A sufficiently large value of the test statistic, (a value greater than 3 is very safe in this case), will indicate that the increase in mean electronic time is significantly greater than zero. The significance level that accompanies a T-value of 3, (used here) is 0.13%.

The reason one uses the T-test method is to test the hypothesis that the mean increase due to a factor is zero versus the alternative hypothesis that it is greater than zero. For the sample size that one is working with, the one sample T-test for the mean is really the same as the one sample test for the mean based on the normal distribution (by virtue of the fact that the Central Limit Theorem applies). In this case the significance level is the probability of getting a value of the test statistic of 3 or more. As stated earlier this probability is 0.13%.

The T-test value for the lowest scoring variable (lfe) is 16.8 which is a very large value and this implies that the value is significant.

The T-test value for the highest scoring variable (fae) is 29.17, which is also very large indeed. The rest of the variables have a T-test value of between 16.8 and 29.17.

When one considers that a T-test value of 3 is considered large, it shows the significance of the variables being tested.

The 4 most important variables in terms of magnitude are:

<u>Variable</u>	<u>Mean extra hours</u>
Free of charge (fce)	1.58
Simpler and faster access (fae)	1.56

Internet indispensable tool (ide)	1.54
Items not found in newspapers (nfe)	1.42

An effort to obtain a regression equation that explains the difference in electronic hours between current and intended readership in terms of these variables proved to be unsuccessful as the R-square value of the model is too low. This is illustrated in Table 6.13.

TABLE 6.13 Stepwise regression for difference in electronic readership

Resulting Variable	Stepwise Model coefficient	Std. Error	Student's T	P
Constant	- 0.38413	0.26388	- 1.46	0.1467
IDE	0.43169	0.13985	3.09	0.0022
FAE	0.57434	0.14009	4.10	0.0001

R SQUARE = 0.1397

The R SQUARE value is a measure of the relationship between the actual dependant variable and the fitted dependant variable. If the R squared value is low (close to 0) then this reveals that the regression does not explain the behaviour of the dependant variable very well.

In determining the association between the variables listed in Table 6.12 and the variable deh (difference in electronic news readership or the difference between current and intended electronic news readership) a Chi-square test is used for each variable. The Chi-square tests which are summarised in Tables 6.14.1- 6.14.15 are performed to test for association between the 15 individual variables and the variable difference in electronic hours (deh). These tests are based on the similarity of the patterns of counts, taken over the levels of deh values, at the different levels of values for each variable. A small Chi-square value and a large p-value indicates similarity amongst the patterns of counts at the

different levels of the feature variable and no or little association between deh and the feature variable. A relatively large Chi-square value and a relatively small p-value indicates a high level of dissimilarity amongst these patterns of counts and a degree of association between the variables.

The value for the variable, deh was calculated as follows:

$$t = 1.1742 / (1.9679 / \sqrt{267}) = 9.75$$

The hour values of the variables were converted to mean scores in determining the chi-square tests, that is, where a respondent indicated a value of up to 1 hour, this was recorded as 0.5. Where respondents indicated 1-2 hours this was recorded as 1.5 and where respondents indicated 2 or more hours per week this was recorded as 2.5 hours. A zero value remained at zero.

In cases where the expected cell values were small, the problem was addressed by combining categories in the Table before calculating the value of chi-square.

TABLE 6.14: Cross Tables and results of chi-square test for difference in electronic hours (DEH) and electronic variables

TABLE 6.14.1: Custom tailored news (CTE)

DEH	LESS	SAME	MORE
CTE			
0	13	93	62
0.5	2	29	29
1.5	1	17	20
2.5	1	0	0

CHI SQUARE 5.81

P 0.2135

In this Table the Chi-square value is small and the p value is relatively large indicating little or no association between the variable “cte” and the difference in electronic hours. As can be seen there is very little change in the count patterns with a small proportion of respondents reading less than before, and a relatively large proportion reading the same amount of electronic news as before or more than before.

TABLE 6.14.2: On-line news forum (FRE)

DEH	LESS	SAME	MORE
FRE			
0	11	93	64
0.5	1	30	29
1.5	1	14	23
2.5	0	0	0

CHI SQUARE 5.89

P 0.2122

Much like the previous Table, the Chi-square value is small and the p-value is quite high. This indicates little or no association between the variables “fre” and “deh”. One can observe that there is very little change in the count patterns with a small proportion of readers choosing to read less than before and large proportion reading the same as before or more than before.

TABLE 6.14.3: Interactive features (ITE)

DEH	LESS	SAME	MORE
ITE			
0	10	80	55
0.5	2	31	32
1.5	5	28	24
2.5	0	0	0

CHI SQUARE 3.67

P 0.4521

Continuing with the same pattern that was observed in the previous two Tables, the Chi-square value for the variable “ite” is low and the p-value is quite high. This would indicate little or no association between “ite” and “deh”. Once again we can see a small proportion of respondents reading less electronic news than before and a large proportion reading the same or more than before.

TABLE 6.14.4: Published instantaneously (CRE)

DEH	LESS	SAME	MORE
CRE			
0	11	56	33
0.5	2	48	42
1.5	4	35	36
2.5	0	0	0

CHI SQUARE 9.64

P 0.0470

In this Table the Chi-square value of 9.64 is considered relatively large and the p-value of 0.0470 relatively small. This would indicate a high level of association between the variable cre and the difference in electronic hours. As we can see, the proportion of counts in the “same” column decreases and the proportion of counts in the “more” column increases with an increase in the level of “cre”. The variable, news that is published instantaneously, (cre) is thus highly associated with the variable, difference in electronic hours, (deh).

TABLE 6.14.5: Links to related sites (ARE)

DEH	LESS	SAME	MORE
ARE			
0	12	76	49
0.5	3	36	33
1.5	2	27	29
2.5	0	0	0

CHI SQUARE 5.67

P 0.2248

It can be seen from this Table that the variable “are” is not highly associated with the variable “deh” because the Chi-square value of 5.67 is considered low and the p-value is quite high. Also, we can see there is very little change in the count patterns. A small proportion of respondents will read less electronic news than before and a relatively large proportion will read the same as before or more than before.

TABLE 6.14.6: Current and fashionable way to read news (CFE)

CFE	DEH	LESS	SAME	MORE
0		15	92	61
0.5		0	31	32
1.5		2	16	18
2.5		0	0	0

CHI SQUARE 9.54

P 0.0490

The variable “cfe” appears to be highly associated with the difference in electronic hours because a Chi-square value of 9.54 is considered relatively large and a p-value of 0.0490 relatively small. Looking at the counts, the pattern at the level 0 hours is very different to the counts of 0.5 and 1.5 hours. Also, the proportion of respondents that read the same amount of electronic news as before decreases and the proportion that read more increases after level 0.

TABLE 6.14.7: Items not found in newspapers (NFE)

	DEH	LESS	SAME	MORE
NFE				
0		9	59	35
0.5		4	40	35
1.5		4	40	41
2.5		0	0	0

CHI SQUARE 4.94

P 0.2930

It would appear from this Table that the variable “nfe” is not highly associated with the difference in electronic hours because of the low Chi-square value and high p-value. We also observe very little change in the count patterns, with a small proportion of respondents reading less electronic news than before and a large proportion reading the same as before or more.

TABLE 6.14.8: Internet becoming an indispensable tool (IDE)

IDE	DEH	LESS	SAME	MORE
0	10	59	16	
0.5	5	34	41	
1.5	2	46	54	
2.5	0	0	0	

CHI SQUARE 29.83

P 0.0000

Table 6.14.8 reveals a different picture to the previous Table. In this instance it would appear that the variable “ide” is highly associated with the difference in electronic hours. The Chi-square value of 29.83 is very large indeed and the p-value is 0, indicating a high degree of association. At first glance we can see that the count pattern at level 0 of the variable “ide”, or the Internet becoming an indispensable tool, is very different to that of the other two levels. Also, the proportion of respondents that read the same as before decreases and the proportion that read more than before increase after level 0.

TABLE 6.14.9: Software that is easier to use (ESE)

ESE	DEH	LESS	SAME	MORE
0		12	75	43
0.5		4	37	35
1.5		1	27	33
2.5		0	0	0

CHI SQUARE 10.56

P 0.0320

It would appear from Table 6.14.9 that the variable “ese” is highly associated with the variable difference in electronic hours due to a large Chi-square value and a low p-value. Looking at the counts specifically, we can also see that the proportion of respondents that read less or the same as before decreases as the level of “ese” increases and the proportion that read more increases as the level of “ese”, or software that is easier to use, increases.

TABLE 6.14.10: News sites that are easier to negotiate (ENE)

	DEH	LESS	SAME	MORE
ENE				
0		12	98	56
0.5		2	24	26
1.5		1	17	29
2.5		0	0	0

CHI SQUARE 13.64

P 0.0085

Once again, it would seem that the variable “ene” is highly associated with “deh” due to a high Chi-square value of 13.64 and a low p-value of 0.0085. When one observes the counts, we see that the proportion of respondents that read less or the same as before decreases and the proportion that read more increases as the level of “ene” increases. This confirms that the variable “ene”, news sites that are easier to negotiate, is highly associated with the variable “deh”.

TABLE 6.14.11: Electronic news sites looking more similar to printed news sites (LFE)

DEH	LESS	SAME	MORE
LFE			
0	12	92	62
0.5	4	22	26
1.5	1	15	31
2.5	0	0	0

CHI SQUARE 13.77

P 0.0079

Table 6.14.11 reveals a very similar picture to the previous Table. The Chi-square value is considered large and the p-value small, indicating a high degree of association between the variables “lfe” and “deh”. As in the previous Table, the proportion of respondents that read less or the same as before decreases and the proportion that read more increases as the level of “lfe”, electronic news sites looking more similar to printed news sites, increases.

TABLE 6.14.12: Free of charge electronic news (FCE)

FCE	DEH	LESS	SAME	MORE
0	13	59	23	
0.5	1	27	29	
1.5	3	53	59	
2.5	0	0	0	

CHI SQUARE 23.71

P 0.0001

Table 6.14.12 shows “fce” to be highly associated with the variable “deh”. The Chi-square value of 23.71 is considered very large indeed and the p-value of 0.0001 very low. We can see that the count pattern at level 0 of “fce” is very different to the other two levels. Also, the proportion of respondents that read less or the same decreases and the proportion that read more increases after level 0.

TABLE 6.14.13: Simpler and faster electronic news access (FAE)

FAE	DEH	LESS	SAME	MORE
0	11	58	18	
0.5	3	40	31	
1.5	3	41	62	
2.5	0	0	0	0

CHI SQUARE 31.87

P 0.0000

This Table reveals a similar pattern to Table 6.14.12. The Chi-square value is very high indeed and the p-value is 0 indicating a high degree of association between “fae” and “deh”. Also, we observe that the count pattern at level 0 is very different from the other levels and that the proportion of respondents that read less or the same decreases and the proportion that read more increases after level 0.

TABLE 6.14.14: Generally accepted way of reading news (GAE)

DEH	LESS	SAME	MORE
GAE			
0	11	78	33
0.5	4	37	35
1.5	2	24	43
2.5	0	0	0

CHI SQUARE 23.92

P 0.0001

Similarly in this Table the Chi-square value is very high and the p-value low indicating a high degree of association between the variables “gae” and “deh”. The counts show that the pattern at level of 0 is very different to levels 0.5 and 1.5. Also, the count patterns for the proportion of respondents that read less or the same as before decreases as the level of “gae”, the generally accepted way of reading news, increases and the patterns for the proportion of respondents who read more increases after level 0, confirming a high degree of association.

TABLE 6.14.15: Part of your daily routine (DRE)

DEH	LESS	SAME	MORE
DRE			
0	19	63	26
0.5	5	43	41
1.5	2	33	44
2.5	0	0	0

CHI SQUARE 18.27

P 0.0011

The final Table shows the variable “dre” to be highly associated with the variable “deh”. The Chi-square value of 18.27 is considered large and the p-value of 0.0011 very low. Looking at the patterns of counts, we see that level 0 is very different to the other levels. As in the previous three Tables, the proportion of respondents that read less or the same decreases with an increase in the value of “dre”, part of your daily routine, and the proportion of respondents that read more increases after level 0.

In summary, 10 of the 15 variables were shown to have some degree of association with the variable difference in electronic hours. This means that changes in the level of these variables will result in changes in the value of deh.

The next section looks at the corresponding variables that could account for people continuing to read more printed news in the future

6.5. VARIABLES ASSOCIATED WITH CONTINUING TO READ MORE PRINTED NEWS

There were 6 variables in the questionnaire that could possibly account for people continuing to read printed news. These were:

- Portability and convenience of newspapers, coded as ptc in the Table
- The special features contained in newspapers (sfc)
- Newspaper being part of ones lifestyle (lsc)
- Satisfaction with the printed news coverage (ncc)
- Newspapers can be read in an informal environment (ifc)
- Newspapers are easy to scan (esc)

Respondents were required to indicate on a 5 point scale whether they strongly agreed with the statement, agreed with the statement, were undecided, disagreed with the statement or strongly disagreed. The scoring for the purposes of the Tables was structured as follows:

- Strongly disagree was given a value of -2
- Disagree was given a value of -1

- Undecided was given a value of 0
- Agree was given a value of 1
- Strongly agree was given a value of 2.

As indicated in Table 6.15, the only variables where the readers tend to agree with the statements are portability of printed newspapers (ptc) and informal environment (ifc). These are the only variables whose mean scores are above 1. In all the other cases the responses range from “agree mildly” to “neither agree nor disagree” as indicated by their mean scores of between zero and 1.

TABLE 6.15: Descriptive statistics of variables associated with reading more printed news

N=267

VARIABLE	MEAN	STANDARD DEVIATION
PTC	1.0262	0.6627
SFC	0.4232	1.0676
LSC	0.6030	1.0547
NCC	0.2247	1.0594
IFC	1.0150	0.6881
ESC	0.8652	0.8207

An effort to obtain a regression equation that explained the difference in printed hours in terms of these variables proved to be unsuccessful. The R-SQUARE value of the model is too low. This is shown in Table 6.16.

TABLE 6.16: Stepwise regression

Variable	Model coefficient	Std. Error	Student's T	P
CONSTANT	-0.11798	0.12628	-0.93	0.3510

R SQUARED = 0.0000

R SQUARE value is a measure of the relationship between the actual dependant variable and the fitted dependant variable. If the R square value is low, or close to zero this indicates that the regression does not explain the behaviour of the dependant variable very well.

In looking for association between the variables listed above and the variable “dph” (difference in printed news readership or the difference between current and intended printed news readership) a Chi-square test is once again used for each variable.

The two statements, “disagree” and “disagree strongly” (D) were placed together, “undecided” (U) was left on its own and “agree” and “agree strongly” (A) were placed together for the purposes of the Tables.

TABLE 6.17: Cross Tables and results of chi-square test for difference in printed hours (DPH) and printed variables

TABLE 6.17.1: Portability of newspapers (PTC)

DPH	LESS	SAME	MORE
PTC			
D	3	10	1
U	0	2	2
A	35	186	28

CHI SQUARE 6.77

P 0.1486

This Table shows that the variable “ptc” is not highly associated with the difference in printed hours because the Chi-square value is relatively low and the p-value relatively high. Looking at the pattern of counts, we see small counts at levels D and U of “ptc” and a large count at “same” next to level A of “ptc”. In fact, nearly 70% of all responses are found here. It is therefore not possible to detect any association at all between “ptc”, the portability of newspapers and “dph”, the difference in printed hours.

TABLE 6.17.2: Special features (SFC)

DPH	LESS	SAME	MORE
SFC			
D	16	54	8
U	0	14	4
A	22	130	19

CHI SQUARE 7.22

P 0.1247

In this Table we see that the count patterns at the different levels of “sfc” are fairly similar. This would indicate a low level of significance between the variables and this is confirmed by studying the Chi-square value, which is low and the p-value which is high.

The results of the chi square test and p value therefore show that the variable, special features, is not highly associated with the variable, difference in printed hours, “dph”.

TABLE 6.17.3: Part of my lifestyle (ISC)

ISC	DPH	LESS	SAME	MORE
D		13	42	10
U		2	12	4
A		23	144	17

CHI SQUARE 6.82

P 0.1459

This Table reveals a very similar pattern to the previous one, in that the count patterns at the different levels of lifestyle are fairly similar. This would suggest a low degree of significance between the variables and this is confirmed by the low Chi-square value of 6.82 and high p-value of 0.1459.

TABLE 6.17.4: Satisfied with printed news coverage (NCC)

	DPH	LESS	SAME	MORE
NCC				
D		19	63	10
U		2	23	5
A		17	112	16

CHI SQUARE 5.87

P 0.2092

In this Table we see a very similar pattern of counts, as per the previous Table. Once again the Chi-square value is low and the p-value relatively high, confirming the lack of significance between the variable “ncc” and “dph”.

The variable, satisfied with printed news coverage, is therefore not highly associated with the variable difference in printed hours, “dph”.

TABLE 6.17.5: Informal environment (IFC)

DPH	LESS	SAME	MORE
IFC			
D	3	11	3
U	0	4	3
A	35	183	25

CHI SQUARE 8.45

P 0.0765

In this Table we can see that the count pattern under level U of “ifc” is slightly different to those at the other two levels. This would suggest a high level of significance between the variables. We can also observe that nearly 69% of all responses are found next to level A of the variable, informal environment. The relatively high Chi-square value of 8.45 and low p-value of 0.0765 confirm that the variable, informal environment, is associated with the variable difference in printed hours.

TABLE 6.17.6: Easy to scan (ESC)

	DPH	LESS	SAME	MORE
ESC				
D		6	21	2
U		0	14	3
A		32	163	26

CHI SQUARE 4.54

P 0.3375

The Chi-square value of this Table is very low and the p-value of 0.3375 is considered large. This would suggest a low level of significance between the variables. Looking at the pattern of counts, we see that they are fairly similar for all three levels of “esc”, confirming that the variable “esc”, easy to scan is not highly associated with the variable “dph”, difference in printed news.

The only variable with any form of association is the variable, “I will continue to read newspapers because it is a medium that I can read in an informal environment.” The rest showed too low chi-square values and too high p values.

6.6 CONTROL QUESTION

The next Table casts some doubt over the accuracy of the information supplied by some of the respondents. The following control question regarding the possible shift in the reading habits of printed news was posed:

“Do you spend less time reading printed newspaper now that you read electronic news?”

Fourteen of the readers who replied “no”, indicated by the shaded area in Table 6.18, did in fact have a negative answer for the difference between current and anticipated printed news, which implies they should have replied “yes” to the question. This might influence the results of the study slightly.

TABLE 6.18: Cross tabulation of control question on difference in printed hours (DPH) and question on printed news readership

	ANSWER TO QUESTION		
	<i>No</i>	<i>Unsure</i>	<i>Yes</i>
-9	1	1	0
-7	1	0	0
-5	5	2	2
-4	1	1	0
-3	1	2	4
-2	5	1	11
0	114	33	51
2	0	4	1
3	15	3	2
4	3	1	0
7	2	0	0
DPH	148		

One hundred and forty eight of the respondents replied “no” to the question, yet earlier evidence points to a clear shift towards electronic news. This might indicate that respondents are reading the same amount of printed news but they are also starting to read more electronic news, in other words more of both types of news. This is consistent

with the literature survey which found that in the United States of America electronic news is taking viewership away from television but not from printed news.

The next section looks specifically at the hypotheses and the tests performed to reject the null hypotheses and to prove the alternate hypotheses.

6.7 TESTING THE HYPOTHESES

The study aimed at proving that the alternate hypotheses would be accepted by virtue of the statistical tests that they were subjected to.

The alternate hypotheses state that:

- The decision to read news on the Internet regularly is related to the perceived relative advantage of the Internet over newspapers
- The decision to read news on the Internet regularly is related to the perceived compatibility of the Internet with the individual's needs, values and practices
- The decision to read news on the Internet regularly is related to the perceived complexity of the medium and technology
- The decision to read news on the Internet regularly is related to the perceived trialability of on-line newspapers
- The decision to read news on the Internet is related to the perceived observability of on-line newspapers

For each of these hypotheses, operational variables which related to fundamental aspects of electronic news readership were included in the questionnaire.

Operational measures for the variable of *relative advantage* addressed the following dimensions:

- If electronic news gave readers personalised automated request queries, in other words if news in electronic form were custom-tailored to suit the readers requirements.
- If electronic news gave readers connectivity to the editor, to businesses or to other readers.
- If electronic news offered interactive features such as video clips, audio clips and animation of stories.
- If electronic news offered more up to date news than printed news.
- If electronic news offered readers links to related sites on the Internet.

Operational measures for the variable of *compatibility* included the following aspects:

- If news in electronic form became the fashionable and current way of accessing news.
- If news in electronic form contained items that are considered essential reading.
- If news in electronic form became an essential tool for business.

Operational measures for the variable of *complexity* focussed on:

- If electronic news sites utilised software that is user friendly.
- If electronic news sites were easy to negotiate.
- If electronic news sites had a similar format to the print parent.

Operational measures for the measure of *trialability* included two significant aspects:

- If electronic news were offered free of charge.
- If electronic news could be easily accessed.

Finally, operational measures for the variable of *observability* also addressed two aspects:

- If the Internet became the current trend
- If news in electronic form became part of a daily routine.

In the questionnaire, respondents were asked to indicate if the variables would influence their readership of electronic news. They were given the option of saying “none” which would indicate that the variable had no influence on their readership of electronic news. If they believed the variable would influence their electronic news consumption, they were asked to indicate the extent, by stating the extra number of hours per week that they would spend reading electronic news as a consequence of the variable. Respondents could answer that the variable would make them read up to an hour more per week, 1-2 hours per week, 2 or more hours per week, or alternatively that it would not influence

their on-line readership at all. Descriptive statistics in Table 6.12 were used to check the mean average additional hours spent reading electronic news as a result of the variable.

Looking at the results of Table 6.12, it is clear that all of the operational variables have a mean score well in excess of zero hours. In order to check for significance of these scores, T-tests were also performed on each of the variables.

The following is the ranking of the importance of the variables as a result of the analysis.

1. If electronic news access was free of charge (fce)
2. If news in electronic form were simpler and faster to access via the computer (fae)
3. If the Internet became an indispensable business tool (ide)
4. If electronic news had to offer interesting items that could not be found in printed newspapers (nfe)
5. If reading news in electronic form became part of one's daily routine (dre)
6. If electronic news were published instantaneously and was thus more up to date than printed news (cre)
7. If news in electronic form became the generally accepted way of reading news (gae)
8. If electronic news utilised software that is easier to use than is currently the case (ese)
9. If electronic news gave one access (links) to related sites on the Internet (are)
10. If electronic news gave one interactive features (ite)
11. If electronic news were custom tailored to suit one's reading requirements (cte)
12. If electronic news gave one an on-line forum (fre)
13. If electronic news sites were easier to negotiate than is currently the case (ene)

14. If electronic news had a more similar look and feel to the printed versions of news

(lfe)

15. If electronic news became the current and fashionable way to read news (cfe)

Looking at each variable individually reveals the following Tables:

TABLE 6.19: Descriptive statistics of operational measures associated with the variable of relative advantage

N=267

VARIABLE	MEAN	STANDARD DEVIATION	RANKING
CRE	1.3745	0.8497	6
ARE	1.1404	0.8736	9
ITE	1.0861	0.8938	10
CTE	0.9345	0.8652	11
FRE	0.9232	0.8242	12

The highest ranking the variable of relative advantage achieves is 6. This could possibly be ascribed to the newness of the medium and the fact that people are still content to use the service for its novelty value and because it is current. Once the Internet starts becoming widely accepted as a serious tool for retrieving news, it is likely that the relative advantage of the medium over other types of news sources will become more important.

TABLE 6.20: Descriptive statistics of operational measures associated with the variable of compatibility

N=267

VARIABLE	MEAN	STANDARD DEVIATION	RANKING
IDE	1.5393	0.8732	3
NFE	1.4232	0.8511	4
CFE	0.8820	0.8329	15

The third and fourth most important measures in terms of mean hour rankings are from the variable of compatibility. It is obvious that readers of electronic news feel that the reading of electronic news via the Internet is consistent with their needs, values and practices. This is supported by Rogers (1995:166-167) who makes the following generalisations about the early adopters of an innovation:

- Earlier adopters of an innovation have more formal education than later adopters.
- Earlier adopters of an innovation have a higher socio-economic status than later adopters.
- Earlier adopters of an innovation have more exposure to mass media channels of communication than later adopters.
- Earlier adopters of an innovation have more exposure to interpersonal channels than later adopters.

- Earlier adopters of an innovation have a greater degree of social participation than later adopters.
- Earlier adopters of an innovation are more cosmopolite than later adopters.

TABLE 6.21: Descriptive statistics of operational measures associated with the variable of complexity

N=267

VARIABLE	MEAN	STANDARD DEVIATION	RANKING
ESE	1.1816	0.8756	8
ENE	0.9195	0.8949	13
LFE	0.9195	0.8949	14

The variable of complexity is also shown to be very important in the diffusion of innovations as “software that is easy to use” ranks at number 8. It has been shown in the literature review that the issue of complexity is at the heart of the concept of re-invention, and that unless an innovation is easily understood it is likely to be rejected or at worst re-invented.

TABLE 6.22: Descriptive statistics of operational measures associated with the variable of trialability

N=267

VARIABLE	MEAN	STANDARD DEVIATION	RANKING
FCE	1.5805	0.9390	1
FAE	1.5562	0.8718	2

It is significant that the two most important measures are from the variable of trialability. This is consistent with the literature of diffusion of a new innovation. Initially it is very important that people are able to try the innovation on a limited basis before they have to commit to adopting it. The reading of electronic news on the Internet seems to be following a similar trend.

TABLE 6.23: Descriptive statistics of operational measures associated with the variable of observability

N=267

VARIABLE	MEAN	STANDARD DEVIATION	RANKING
DRE	1.3858	0.8688	5
GAE	1.2378	0.8993	7

Observability is also very important and the two measures testing this variable were ranked at number 5 and 7. There is no doubt that the Internet is a very current way to access electronic news and it seems it is increasingly becoming ubiquitous as more and more people get connected to the Internet and talk about the advantages of being connected.

In terms of proving the alternate hypotheses, all the variables tested were shown to have a mean score well in excess of zero hours, indicating that they influence readership of on-line news and by the performance of the T-tests, the lowest score being 16.78, all these mean scores were shown to be highly significant. A minimum T-test value of 3 was considered the acceptance level in this instance and any variable scoring above 3 was considered to be significant.

When a conclusion is based on a number of tests versus an individual test as in this case, the margin of error increases. However if the individual tests have an extremely small margin of error, even a considerable increase in this margin of error will not affect the validity of the conclusions. In this case the T-tests for the individual tests range from 16.78 to 29.17 which point to extremely low margins of error for the individual tests and therefore even a considerable increase in the margin of error for the overall conclusions will not be of any significant size. All five hypotheses are thus accepted on this basis.

6.8. SUMMARY AND CONCLUSIONS

This study has succeeded in rejecting the null hypotheses referred to in chapter 5 and restated below:

- The decision to read news on the Internet regularly is not related to the perceived relative advantage of the Internet.
- The decision to read news on the Internet regularly is not related to the perceived compatibility of the Internet with the individuals needs, values and practices.
- The decision to read news on the Internet regularly is not related to the perceived complexity of the medium and technology.
- The decision to read news on the Internet regularly is not related to the perceived trialability of on-line newspapers.
- The decision to read news on the Internet is not related to the perceived observability of on-line newspapers.

The results of the research support the five alternate hypotheses, namely,

- The decision to read news on the Internet regularly is related to the perceived relative advantage of the Internet.
- The decision to read news on the Internet regularly is related to the perceived compatibility of the Internet with the individuals needs, values and practices.

- The decision to read news on the Internet regularly is related to the perceived complexity of the medium and technology.
- The decision to read news on the Internet regularly is related to the perceived trialability of on-line newspapers.
- The decision to read news on the Internet is related to the perceived observability of on-line newspapers.

The results of the study indicate that all the operational measures are important in the decision to read electronic news via the Internet. As suggested, some measures were found to be more important than others and this relates directly to the lifecycle of the innovation. The Internet is still a very new phenomenon for most people and retrieving electronic news from the Internet whilst there are so many established news alternatives still seems a foreign concept.

What the study also confirms is that Internet users are amongst the highest paid personnel in South Africa, are very well educated and hold prominent positions at work. This could be described as a limitation of the study in that the population is not consistent with the balance of the population of South Africa.

This is however consistent with a description of early adopters in the literature survey.

The fact that the Internet and electronic news via the Internet seems to be diffusing rapidly is no guarantee that the innovation will succeed. The concept of re-invention applies especially to electronic innovations, and as has been seen by the failed Videotex

experiments, there is no guarantee that electronic news via the Internet will be any different.

It is also apparent from the study that paper printed news is not presently in danger of declining since most electronic news readers will read both electronic news and paper printed news, especially as a consequence of its ability to be read in an informal environment. However, concern is raised about the high number of individuals that indicated that they will read more electronic news in the future, and one cannot help but think that as electronic news becomes more acceptable as an alternative, readership of printed news may decline.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 SUMMARY OF INVESTIGATION

The primary purpose of the study was to determine the factors influencing consumers' acceptance of on-line news and secondarily, to establish whether the availability of news on the Web affected the readers' relationship with printed newspapers. Scientific methodologies were applied to determine readership trends and interpretations are advanced with respect to the findings.

The literature study reveals that on-line newspapers have developed rapidly, with almost an explosion in the marketplace of the Internet and electronic publishers. Not only have the different services been in competition with each other, but with other traditional forms of publishing, such as newspapers and magazines. In addition, Phillips (1998:45), shows that in the short period of approximately three years, from 1995 to 1998, more than 8000 web sites were built which were operated by print, radio and non traditional news organisations.

The importance of the Internet both to our generation and to future generations was evident in this study. The contention is that the Internet is the most portentous media development of all time, which is evidenced in the rate at which the technology has diffused, and impacted on established media consumption patterns.

A study of the factors that affect a consumer's decision to read the news in an electronic form was shown to be pertinent since this will have an enormous bearing on future media readership patterns, media consumption and ultimately the future of printed newspapers.

The study thereafter considers the theoretical constructs advanced with respect to innovative products. According to Roger (1995:10), diffusion is the process by which an *innovation is communicated* through certain channels over *time* among the members of a *social system*. Fundamentally, the four main elements of diffusion, the innovation, communication channels, time and the social system are the focus of the argument. Electronic newspapers are viewed as a discontinuous innovation on account of the requirement of consumers to adopt new behaviour patterns, when reading the news. While traditional sources of news require a consumer to purchase, for instance a newspaper, electronic publishing requires a computer with Internet access, and in most cases the news is delivered free of charge. In South Africa, since February 16, 2001, even Internet access is free of charge via ABSA (Amalgamated Banks of South Africa). Moreover, the manner of reading the news has changed, as the traditional publishing model is based on the broadcast method, which presented static content to the consumer. In contrast, on-line news is interactive and readers have the opportunity to customise their news content to a certain degree.

Not all innovations have an equal chance of consumer acceptance. The characteristics, which extensively seem to influence acceptance of new products, are relative advantage,

compatibility, complexity, trialability and observability. Here, relative advantage refers to perceptions of new products being superior to existing substitutes. These perceptions serve as compelling reasons to read an electronic version of a newspaper, in preference to a conventional printed version of the news. Thereafter, compatibility is described, as the degree to which potential consumers feel a product is consistent with their present needs, values and practices. It was shown that in many instances the on-line version of the news gains acceptability from the tried and trusted print parent, which lends extensive compatibility to the product. In addition, on-line publishers retain similar graphics, articles, cartoons and journalists in many instances, which means the two editions of the newspaper are synergised as much as possible.

Subsequently, the quality of complexity is defined as the degree to which a new product is difficult to understand or use. Easy customer understanding and usage of a product, ensures acceptance. This is especially true of electronic innovations and the study showed the merit of push technologies where an uncomplicated method of information retrieval is offered by news on the Web. It was also indicated that the development of Mosaic and the World Wide Web greatly facilitates the ease of use of electronic newspapers.

Trialability refers to the degree to which a new product is capable of being tried on a limited basis. New ideas that can be tried on an instalment plan for instance will generally be adopted more quickly than innovations that do not have the capacity to be presented to the consumer in a divisible form. The mere fact that most electronic newspapers are free means that consumers can generally use the service without having to commit to

payments of any sort. This form of easy accessibility is shown to greatly enhance the rate of diffusion.

Finally, observability refers to the ease with which a product's benefits or attributes can be observed or described to potential consumers. Largely, products, which have a high degree of social visibility, such as the Internet, are more easily diffused than products that are used in private, such as a new type of toothbrush.

The important aspects of the channels of communications, social system and time were also explored, with respect to:

- The channels of communication. If an innovation exists, communication must take place if the innovation is to spread. The indication is that the Internet has grown exponentially over the past 7 years, and the growth has been all-pervasive in that the new technology touches consumers in all aspects of their lives. Consequently, word-of-mouth has been extremely high for the innovation, and this has greatly facilitated its diffusion.
- The social system is a relevant factor for the diffusion of a new product and it usually takes place within a particular social setting. Internet users in South Africa are at the top echelon of society and enjoy the highest standards of living as determined by the Living Standards Measure survey. These consumers are fairly homogenous which once again facilitates the diffusion of the innovation as the users interact freely with one another.

- Time is the backbone of the diffusion process and this study highlights the important fact that the rate of diffusion is increasing, i.e. the period over which the diffusion occurs is getting shorter. This is certainly true of the Internet, which has diffused at a rate faster than radio and television. In fact, the Internet is the fastest growing medium in history, which greatly facilitates the diffusion of electronic newspapers.

Principally, the study closely examines the adoption process, through which every innovation passes and illustrates the use of the innovation decision process. The model identified five steps which consumers encounter in the decision making process regarding the adoption of a new product.

The first step is the knowledge stage where the consumer is exposed to a new innovation such as electronic newspapers and gains an understanding of the function. Sabre research indicates that Internet users in South Africa spend an average of 271 minutes per week accessing the Internet. Prior conditions are apparently extremely favourable for innovations analogous to on-line newspapers.

The second step in the innovation decision process examines the characteristics of the decision-making units illustrated in the assessment of how Internet users in South Africa fall into Living Standards Measures group 8. These consumers are the most affluent in South African society and have a high propensity for usage of electronic newspapers.

Persuasion, the third stage in the process was concerned with how an individual forms a positive or negative attitude towards the innovation. The concepts of relative advantage, compatibility, complexity, trialability, and observability become important here and demonstrate that there are compelling reasons for a reader of a newspaper to also read the on-line edition.

The decision stage then occurs when an individual engages in activities that lead to a choice to adopt or reject an innovation. Most individuals who try an innovation then move onto an adoption decision if the innovation has at least a certain degree of relative advantage.

Finally implementation occurs when an individual adopts the innovation. It was shown that this stage usually continues until the innovation becomes an institutionalised part of the adopter's ongoing activities. However, this last step is contentious since the aspect of reinvention which is particularly prevalent in technological innovations often occurs. Essentially, re-invention is defined as the degree to which an innovation is changed or modified by a user in the process of its adoption and implementation. If the concept of re-invention is contextualised within the scope of electronic newspapers, the example of Videotex, an early form of electronic publishing, is pertinent. Videotex was re-invented by consumers and the main stream usage of the medium was quite unlike the form that its inventors had intended the product to serve. Videotex was received by many scholars as the precursor to electronic publishing on the Internet and this is what makes the re-invention of Videotex so interesting for electronic publishers. Interestingly, the users'

adoption of Videotex as a reference library was the trend, which was witnessed during the early experiments with the technology. Similarly, this reference library trend is starting to emerge on the Internet today, which is not what electronic publishers envisaged for on-line newspapers. The failed Videotex experiments have been examined in depth by electronic publishers and should warn against complacency.

The empirical aspect of this study dealt with factors influencing readership of electronic news via the Internet. Consequently, in setting out the design of this research, five main hypotheses were formulated. The sample size and composition were described and the demographic profile of Internet users was illustrated. The Sabre (1999) study revealed that Internet users are highly educated, hold prominent positions at work and are amongst the highest income earners in South Africa. These findings were confirmed by this empirical study as well.

Since this study was concerned with readers of electronic news, sampling was amongst on-line readers and an electronic publisher, netassets.co.za was chosen as the host domain. The new method of conducting research on-line, as opposed to the more traditional methods of personal interviews, telephonic surveys and mail questionnaires, were discussed. Both the advantages and disadvantages of this method of collecting data were presented.

In determining the sampling frame for the survey, a list of all readers of netassets.co.za over the 8 weeks of the research were considered to be ideal, but this was unavailable and this influenced the sampling method chosen. There are many sampling procedures available to the researcher but censored quota sampling was used in this study due to the absence of a suitable sample frame as discussed. It was important that the sample was free of sampling bias and non-response bias and this was accomplished by implementing the censored quota sampling method.

In describing the validity of the sample size of 300 responses, there are few sampling situations where a sample size can be theoretically validated. The principle of “the larger the sample size, the better” was thus used. A pilot study was conducted to test the validity of the questionnaire and the recommendations arising from this study were included in the main questionnaire.

The consequent presentation of the techniques and procedures used to analyse the findings of the research, is discussed from the following perspectives:

- The distribution of the demographic variables of the respondents;
- The variables associated with the reading trends of electronic news and printed news, both current and anticipated;
- The variables associated with reading more electronic news;
- The variables associated with continuing to read more printed news and
- The factors affecting a consumers decision to read electronic news.

The study set out to investigate the factors influencing a consumer's decision to read electronic news via the Internet. A secondary objective of the study was to examine the readers' relationship with printed news in the light of their electronic news consumption. Thus as a starting point, demographic variables of age, education, income and position at work were investigated to indicate the nature of the population. Interestingly the variables closely mirrored the demographic profile of Internet users of other studies such as SABRE (1999).

Next, the variables associated with reading trends were investigated, and printed news and electronic news were treated separately. It was shown that the majority of printed news-readers, 74%, will continue to read the same amount of printed news as before, but that only 12% will read more and 14% will read less. In conclusion, the printed news will probably maintain its readership or decline slightly in the future. In contrast, 42% of electronic news-readers indicated that they would read more than before, with 52% indicating they will read the same, and only 6% less. Evidently electronic news will probably determine a substantial increase in readership in the future.

The complementary effects of printed news and electronic news for current readership, show that 36% of respondents spend the same number of hours reading printed news and electronic news, 40% spend more time reading printed news and only 24% spend more time reading electronic news.

The corresponding anticipated readership figures display a different set of data. Forty percent of the respondents will spend the same number of hours reading printed news and electronic news, 23% will spend more time reading printed news but 37% will spend more time reading electronic news.

In conclusion, apparently readers still regard the reading of printed news as worthwhile, but intend spending more time in the future reading electronic news. Looking specifically at the variables associated with reading more electronic news, 15 measures were forwarded as possible factors. The research showed that all 15 factors contributed to the decision to read more electronic news in the future. Moreover, some factors had a greater degree of influence than others did. The four most important variables in terms of influencing future readership of electronic news were:

1. If electronic news were free of charge.
2. If electronic news were faster and simpler to access.
3. If the Internet became an indispensable tool for business.
4. If electronic news contained items that could not be found in newspapers.

The examination of factors that influenced the future consumption of printed news was explored. The factors of significance were: “I will continue to read newspapers because it is a medium that I can read in an informal environment” and “I will continue to read printed news because they are portable.” Notably, the results have implications for

future research, and also for publishers of both electronic news via the Internet and printed news.

The limitations of this research must be acknowledged in order to enhance the quality of future research in this field. Firstly, the study population was only representative of one Internet news site, netassets.co.za. Although netassets.co.za is widely regarded as the premier on-line news site in South Africa, the preferable approach would be the inclusion of at least one other news site in the survey since the population would have been more representative of the South African Internet population. This would have resulted in a larger sample size as well, enhancing the validity and representivity of the findings.

Secondly, the nature of the questionnaire required respondents to estimate their approximate current and intended news readership, which required them to gauge how much news they were currently reading and how much news they intended to read in the future. In addition to this, when probing the factors that influence readership of on-line news, respondents were required to estimate how many extra hours certain factors would contribute to their weekly readership. Both these techniques require a high level of judgement. An overestimation by respondents of the intended readership of electronic news is possible.

In determining the secondary objective of the study, which was to investigate the relationship between printed news and electronic news via the Internet, a limiting factor was the exclusive target of Internet users in probing the usage of both media. But this focus was deemed necessary because the medium is particularly new and there was difficulty in recruiting print users that were also electronic news-readers.

Since this study was primarily concerned with factors that affect the decision to read electronic news via the Internet, the failure of the data to illustrate the difference in electronic hours between current and anticipated readership in terms of these variables must be considered a limiting factor of the research. Whereas there can be no doubt that these factors do affect the decision to read electronic news, it would have been ideal if the future consumption of electronic news could be explained in terms of these factors. Consequently, a more detailed investigation of consumers' preference for electronic news in view of the free Internet access should be carried out. Although there is no doubt that committed electronic news readers intend to read more electronic news in the future, their commitment to printed news remains high. This then begs the question - what will have to be sacrificed in order for them to read more electronic news whilst largely maintaining their printed news readership? The literature survey suggests that time spent watching television will decrease since viewership in the United States of America has dropped as a result of the growth of the Internet. This topic is worthy of further study to determine the future relationship between printed news, electronic news and television viewership.

There seems to be little doubt that electronic news via the Internet is well established and will continue to grow in its diversity of uses. At this point, the Internet is diffusing rapidly and it appears as though electronic publishers are gaining as a result of this. Yet printed newspapers, television and radio are still by far the dominant source of daily news for the majority of South African consumers. This is largely as a result of the limited number of people with Internet access and the availability of news via other media. It was also found that many people experience eye-strain when reading on the computer for long periods. Another factor which could also contribute to people preferring newspapers to electronic news is the fact that one pays per minute for a telephone call when accessing the Internet and if one reads for long periods on-line this could result in costs far in excess of the nominal price of a traditional newspaper. A traditional newspaper may be read by more than one person in the household or office without increasing the cost per reader. On-line news is usually read by one person at a time and the cost per reader increases as the number of readers increase and as the time spent reading increases.

This study nevertheless, demonstrates that there are compelling factors that will motivate consumers to read more news on-line and that electronic publishers need to consider these factors in an attempt to increase readership.

Accordingly, the four most important factors for increasing on-line news consumption are presented:

- Electronic news that is free of charge. The culture of the Internet is free and indeed on-line publishers are wrestling with the problem of how to charge for their services. A few news brands such as *The Wall Street Journal* and *The Boston Globe* have been successful in charging for access to their on-line version, but the majority of electronic newspapers have encountered enormous resistance to attempts to charge for their Internet services. Evidently free Internet and electronic news access is what consumers want. If this is the expectation of consumers, then there is the need to seek alternative revenue streams to support the Internet publications.

- Simpler and faster access to the on-line publication. Access speeds are a concern for on-line publishers and Internet service providers the world over. There are quite simply too many users and not enough bandwidth to support the Internet traffic. Numerous proposals have been forwarded to increase bandwidth and the most promising is the transfer of data via satellite. The first stages have been effected in South Africa with the launch of Siyanda, but a drawback of the service is the additional cost. Dissemination of the service seems problematic in terms of the unpredictability and reliability of the satellite feeds. However, if on-line news via the Internet is to seriously challenge printed news, the immediate drawback of the current technology must be overcome.

- If the Internet became an indispensable business tool. It is interesting that despite the rapid diffusion of the Internet, many business people in South Africa still do not regard the service as indispensable to their businesses. Change is imperative as the

Internet plays a more prominent role in the way business is conducted. Electronic publishers may speed up this realisation by indicating to business people the many advantages of doing business on the Internet. To a great extent advertising by major computer companies such as IBM and Microsoft has spurred the development of an understanding of the potential of the Internet for the business world. But if electronic publishers want serious acceptance and the increase of readership, they should communicate the benefits of the Internet more actively.

- If electronic news contained items not found in printed newspapers. It is interesting to note that readers of electronic news expect benefits over and above those found in traditional printed newspapers. In South Africa many on-line publishers are guilty of the practice of shovelware, where content from the printed version of papers is merely placed on-line. This is not ideal for consumers of on-line news, and part of the Internet experience is obtaining value-added services that other media cannot deliver. Nevertheless, there is a fine line between retaining core content and introducing new content to an electronic news site. What publishers have found in the past is that too little content from the core print version often leads to an outcry from readers as well, and publishers often end up compromising between the two, i.e. offering fresh content mixed with news from the printed version of papers.

In conclusion, all fifteen factors were shown to be very important in influencing readership and electronic publishers need to take cognisance of these factors when designing their news sites and marketing programs. The results of the findings indicate

that printed newspapers are not in grave danger from the threat of electronic news, as most consumers continue to value their contribution and seem content to retain their readership of the medium. Yet the reasons advanced by the respondents for continuing to read printed newspapers reveals a slightly different picture. The two most important reasons for continuing to read printed newspapers are the fact that newspapers are portable and can be read in any informal environment. It is not the intrinsic benefit of reading printed news, which is important to consumers but the fact that newspapers can be carried on the train, plane, bus or to the bathroom and be read at leisure. There appears to be an imminent threat though to newspapers since computers have become more portable. In the United States of America work has been in progress for a number of years on a device known as a tablet, which is a portable computer that is designed solely for the purpose of reading news. The tablet is updated daily by downloading relevant news articles from a central repository, whereafter the readers access the news at their convenience. Perhaps the first step to making electronic news completely portable will be attained if the tablet is successful. If this materialises, newspapers may find their strategic advantage over electronic newspapers significantly compromised.

Improving the content of newspapers, appears to be a significant area of opportunity for the print media. Amongst electronic news-readers, the satisfaction levels with the general content of newspapers and the special features contained in newspapers were rated low in the survey. If this situation were remedied, coupled with the newspaper's portability and its lower cost per reader its viability may be extended despite the improvements to on-line news.

Surprisingly, the question relating to newspapers being part of one's lifestyle did not strike a chord with respondents. Responses ranged from "agree mildly" to "undecided". This response would again be a concern for newspapers to address. One would expect newspapers to be a well established part of peoples' lives but it appears that newspapers are perhaps seen as old fashioned. One may assume that if the respondents comprised newspaper readers only, these results would be somewhat different.

7.2 CONCLUSION

The growth of the Internet over the past seven years has been nothing short of phenomenal in terms of its prolific expansion and the change that it has brought to users. This technology has created opportunities for previously unrealistic business ventures and on-line publishing has been one such off-spin. The growth of on-line news has not been without its teething problems, which have been recorded here in conjunction with a brief analysis of other technologies that have failed in providing the service. The suggestion is that the market is in fact volatile and prone to the whims of the readers and the ability of the server to understand the needs of the readers. But it appears that the innovation has diffused successfully and is positioned for spectacular growth in the future.

On-line publishers; however, should not become complacent. The consumers' ever decreasing spare time means that choices have to be made regarding media that deliver news. On-line news will have to compete fiercely to gain sustainable audiences in the

future, since it still, has a formidable competitor in the printed newspapers, television and radio.

While there are compelling reasons to choose on-line news rather than more traditional forms of media, there is no room for complacency and ultimately it is up to electronic publishers themselves to ensure their successful future through ongoing research and careful analysis of the market. The overriding contention is that success in this area of interaction is not due to chance or to randomly or intuitively finding the right approach, but by recognising that the readers are highly sophisticated with specific needs to be met. Hence a rigorous scientific method is needed for the on-going analysis of the needs, expectations and social habits of the user.

The future of on-line news is indeterminable, but there is no doubt that the seeds for a revolution in the way consumers interact with their traditional news publishers has been sown. The progression from novelty into indispensability is a long way off however for a great many readers, and ultimately it is up to publishers of on-line newspapers to ensure that this progress is made as swiftly and as profitably as possible. The road to success for on-line publishers is likely to be long and arduous but also extremely exciting and dynamic.

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APPENDIX
ELECTRONIC QUESTIONNAIRE

Please help us to understand how we can improve this service to you by completing the following questionnaire.

Note: It will take you approximately 7 minutes to complete the survey and your complete confidentiality is assured.

It's easy! You are merely required to click on the appropriate box with your cursor and when you are finished click on the submit button.

Step One: Your details

(Select an option from the following pull-down menus)

1. Age: Younger than 20 ▾
2. Highest education achieved: Less than Matric ▾
3. Annual income: Less than R60 000 ▾
4. Position at work: Clerical ▾
5. Where do you currently access the Internet? At home ▾

Step Two: Your reading habits

(Select an option from the following radio buttons)

1. Do you know that in addition to printed newspapers, news is also available in electronic form on the Internet? Yes No

2. Do you know how to get access to news on the Internet? Yes No

3. Indicate the approximate number of hours per week that you are **currently** spending on reading printed newspapers and electronic news on the Internet:

Printed newspapers	0 <input type="radio"/>	1-3 <input type="radio"/>	4-7 <input type="radio"/>	8+ <input type="radio"/>
Electronic news	0 <input type="radio"/>	1-3 <input type="radio"/>	4-7 <input type="radio"/>	8+ <input type="radio"/>

4. Indicate the approximate number of hours per week that you **intend** spending on reading printed newspapers and electronic news on the Internet for the next year:

Printed newspapers	0 <input type="radio"/>	1-3 <input type="radio"/>	4-7 <input type="radio"/>	8+ <input type="radio"/>
Electronic news	0 <input type="radio"/>	1-3 <input type="radio"/>	4-7 <input type="radio"/>	8+ <input type="radio"/>

5. Indicate the extent to which any of the following will change your answer to questions 3 and 4.

- 5.1 If electronic news were custom tailored to suit your reading requirements, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.2 If electronic news gave you an on-line forum, such as a chat room, for talking to the editor, to businesses and to other readers, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.3 If electronic news gave you interactive features such as video clips, audio clips, and animation of stories, how many **extra** hours per week

would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.4 If electronic news were published instantaneously and is believed to be more current than printed news, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.5 If electronic news gave you access (links) to related sites on the Internet, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.6 If electronic news became the current and fashionable way to read news, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.7 If electronic news had to offer interesting items that could not be found in printed newspapers, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.8 The Internet is not currently an indispensable business tool but if it were to become indispensable, how many **extra** hours per week would you spend reading electronic news?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.9 If electronic news utilised software that is easier to use than is currently the case, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.10 If electronic news sites were easier to negotiate than is currently the case, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.11 If electronic news had a more similar look and feel to the printed versions of news, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.12 If electronic news access was free of charge, that is there were no monthly Internet subscriptions, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.13 If news in electronic form were simpler and faster to access via your computer, how many **extra** hours per week would you spend reading electronic news?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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- 5.14 If news in electronic form became the generally accepted way of reading news, how many **extra** hours per week would you spend reading

electronic news?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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5.15 If reading news in electronic form became part of your daily routine, how many **extra** hours per week would you spend reading it?

0 <input type="radio"/>	0-1 <input type="radio"/>	1-2 <input type="radio"/>	2+ <input type="radio"/>
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5.16 If applicable, specify your own reason for reading more news in electronic form.

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▼

6. Now that you read electronic news, do you spend less time reading printed newspapers?

Yes <input type="radio"/>	No <input type="radio"/>	Unsure <input type="radio"/>
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7. Indicate the degree to which you agree or disagree with the following statements:

7.1 I will continue to read printed newspapers because they are portable and can be read at a time and place that is convenient to me.

Agree strongly <input type="radio"/>	Agree <input type="radio"/>	Disagree <input type="radio"/>	Disagree strongly <input type="radio"/>	Undecided <input type="radio"/>
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7.2 I will continue to read printed newspapers because they contain special features that I consider to be essential reading.

Agree strongly <input type="radio"/>	Agree <input type="radio"/>	Disagree <input type="radio"/>	Disagree strongly <input type="radio"/>	Undecided <input type="radio"/>
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7.3 I will continue to read printed newspapers because they are part of my lifestyle.

Agree strongly <input type="radio"/>	Agree <input type="radio"/>	Disagree <input type="radio"/>	Disagree strongly <input type="radio"/>	Undecided <input type="radio"/>
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7.4 I will continue to read printed newspapers because I am satisfied with the news coverage they offer.

Agree strongly <input type="radio"/>	Agree <input type="radio"/>	Disagree <input type="radio"/>	Disagree strongly <input type="radio"/>	Undecided <input type="radio"/>
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7.5 I will continue to read printed newspapers because it is a medium that I can read in an informal environment.

Agree strongly <input type="radio"/>	Agree <input type="radio"/>	Disagree <input type="radio"/>	Disagree strongly <input type="radio"/>	Undecided <input type="radio"/>
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7.6 I will continue to read printed newspapers because they are easy to scan and I can quickly decide what is important to read.

Agree strongly <input type="radio"/>	Agree <input type="radio"/>	Disagree <input type="radio"/>	Disagree strongly <input type="radio"/>	Undecided <input type="radio"/>
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7.7 If applicable, state your own reason for continuing to read printed newspapers.

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