CHAPTER 1

OVERVIEW

1.1 Introduction

This thesis investigates the role of the Internet in information management in developing countries. The literature describes the Internet as an essential part of the development process (Kole2000; Ngwainmbi 2000; Hoffman, 2000 1999; Mansell and Wehn 1998). The literature appeals to development organizations to speed up the development process by adopting the Internet and modern information communication technologies (ICT) (Kgegwenyane 2000; Thaphisa 2000; UNDP ICT Experts 2001; World Bank 1998) This work examines the validity of those calls and assertions.

The present work examines the relationships between those technical and social phenomena that determine the relevance and usability of the Internet for information dissemination in developing countries in general, and in Africa in particular. The work examines the role of the Internet in development in two ways:

- It considers Internet use environments in developing countries.
- It examines the usability of the World Wide Web (WWW) as an information conduit for entrepreneurs in a specific developing country, namely Botswana.

1.2 Objectives of the research

Internet enthusiasts, together with the World Bank and UN bodies, have stated that the Internet is "the technology of the century" and that will it help Africa to move from being an underdeveloped continent to being part of a worldwide information society. My question is: "How can the factors that have contributed to Africa's underdevelopment (colonialism, war, famine, etc) be solved by the availability of the Internet?"

This research sets out to examine the extent to which the Internet can be a development tool in developing countries in general and in Botswana in particular. It seeks to identify and describe the kind of socio-technical environments that could promote or inhibit the use of the Internet. The main objectives of the research are therefore:

- to ascertain what existing technical and socio-economic environments affect the usability of the Internet as an information resource in developing countries
- to establish the degree of usability of the WWW as an information conduit in Botswana and other developing countries

1.2.2 Research problem

United Nations agencies have identified information as a tool for development and access to information has been recognised by the UN as a right since 1948. The 1948 United Nations Universal Declaration of Human Rights calls for freedom of access to information. It describes such access to information as one of the basic freedoms of humans.

The World Bank and UN agencies have all cited the Internet as a key factor in the development of Third World countries because the Internet offers opportunities for storing and exchanging large quantities of information. In developed countries, large and small business concerns alike transact business on the Internet and items on the WWW are at the disposal of anyone with access to the Internet. (Braun, 1999)

In developing countries, however, the cost of the Internet makes it inaccessible to most individuals. "The monthly connection cost of the Internet far exceeds the monthly income of a significant portion of the population" (United States Internet Council 2000: http://www.usic.org). Other factors that inhibit the use of the Internet in Africa are the very small number of people who own computers, poor telephone infrastructures, a lack of understanding of what the Internet does, and illiteracy (Kole 1999; Ngwainambi 2000; United States Internet Council 2000). African presence on the Internet generally, and on the WWW in particular, is very low. In the light of such problems and difficulties, what can be done to make the Internet a usable (and indeed indispensable) information storage and retrieval tool for Africa and other developing areas?

Botswana is a relatively rich developing country. While its gross domestic product is US$3.5 billion, its growth rate is 6.9% per year. Its foreign exchange reserves are enough to pay for imports for the next 26 months (Government of Botswana 2000: http://www.gov.bw). Its telephone density is 17.95 per 100. Most of the problems and deficits that are endemic to Africa are not typical of Botswana. The telecom infrastructure has been developed to the point where the Botswana Telecommunication Corporation has been able to establish a subsidiary Internet Service Provider (ISP) called Bosnet, and an economic and telecommunication infrastructure exists to support Botswana participation on the Internet.

By using Botswana as a case study, the researcher investigates the extent to which the users of WWW can obtain access to information for business purposes. The researcher also investigates the extent to which and the form in which the WWW has become a development tool in Botswana. In the research, she focuses specifically on the textile sector and investigates the extent to which the sector uses the WWW.

As we noted above, Botswana is not a typically poor developing country because an economic and technical environment exists to support the Internet. What are the issues that need to be considered in using the Internet in Botswana?

1.2.3 Research questions

The research questions are grouped under the two objectives of the research. These are:

(1) To identify and describe the existing technical and socio-economic environments are that affect the usability of the Internet as an information resource in developing countries. This objective generates the following additional questions:

(a) What are the prevailing environmental conditions that encourage or discourage Internet connectivity?

(b) What measurable benefits accrue to communities using the Internet?

(c) What policy considerations affect Internet usage?

(2) To establish the degree of usability of the WWW as an information conduit in Botswana and other developing countries.

Table 1 below outlines the research questions that establish the degree of usability of the WWW as an information conduit in Botswana and other developing countries (i.e. fulfil the second research objective).

Table 1: Research questions for objective two

Research theme	Research questions
Information needs	1. What type of information do SMME (small, medium and micro enterprise) entrepreneurs need? 2. What sources are currently used to provide information? 3. Are the available information sources adequate?
Access: 1) Socio-cultural barriers	1. To what extent are gender, education and literacy levels limiting factors in accessing information? 2. What are other socio-cultural hindrances to information access?
2) Physical barriers	To what extent do potential users have access to a computer with Internet connectivity?
Solutions: 1) Identify an IT (Information Technology) solution.	1. What computerised databases exist to provide current information? 2. How much do users know about IT? 3. What are their opinions about IT?
2) Design and install a web site.	1. Describe the specifications for an information web site? 2. How should these specifications be adapted to meet the needs of my target population? 3. Does my database meet these specifications? 4. To what extent does my database fulfil the needs of my target population? 5. How should it be improved?
3) Relevance of the web as an information delivery tool in Botswana	1. What is the degree of web connectivity? 2. What are the policy issues around Internet connectivity and web availability? 3. To what extent can the WWW be a tool for information delivery in Botswana?

1.3 Background

Although only 6% of the world's Internet users live in the developing countries, 84% of the world's population lives in such countries (Futurist 2000). The exponential growth of business transactions on the Internet threatens to exclude the bulk of the world's population who live in the developing world and who have no access to the Internet. Business on the Internet is concentrated among the 12% of the world's population who account for 94% of Internet use, and who control much of the world's wealth and information. (Hegener, 1995)

The United Nations Economic and Social Council recognizes the need to harness the growth of the Internet and use it as a tool for information exchange in developing countries.(United nations Public Information (1999) http://www.org.esa/coordination/ecosoc/itforum). Another United Nations organ, UNDP notes that "information communication technology is perhaps the central development issue at the dawn of the new millennium. Not only are the technologies the key to economic growth, they can impact on most pressing global issues" (UNDP Panel of Experts: 2001: Wysiwyg://66/http://www.undp.org/info21/new/n-ecosoc.html). This assertion emphasises the link between development (which often includes business growth) and indispensable information communication technology such as the Internet. The United Nations Development Programme (UNDP) has also indicated its commitment to a similar view. Its Cyber Villages Project brought the Internet to remote villages in Chile, Indonesia and Argentina. The UNDP has plans to

expand these to other developing countries. (*Futurist* 2000:19). A similar view is expressed in *The Economist* (2000. 8189:38) when it states that the "Internet can help developing countries catch up with developed ones". This view is corroborated by other researchers and scholars (Jensen 2001; Kole 2000; Thaphisa 1999).

Ticoll (2000) presents a contrary point of view. He reports that anti-globalisation demonstrators at a G8 summit in Japan denounced Internet connectivity by asserting, "the Internet connection will not cure malaria". There is obviously a degree of truth in the statement in that connection *alone* is not a panacea for development problems. The value of the Internet is not directly proportional to the volume of connectivity that it creates. Its development value is directly proportional to the degree to which those who use it can apply the information that they obtain from it in the management of their day-to-day activities in business or industry (Reinecke 2000). The Internet has to be used to store, manage and disseminate information that is relevant to development if it is to be useful to developing countries.

The World Bank is concerned that unequal access to the Internet within developing countries may create a "digital divide" between those who have access to the Internet and those who do not. One may also predict with some certainty that an unplanned, unfocused and uncoordinated spread of Internet connectivity will further the process of globalisation without securing any real benefits for developing countries (Ticoll 2000). This kind of unplanned and incoherent increase in Internet connectivity will merely make people in developing countries consumers of information from developed

countries. Such a wholesale consumption of information, ideas and trends from the Internet could very well become a new form of imperialism or cultural colonialism if Western values, interests and agendas are transmitted to developing countries without any kind of reciprocal transmission from developing countries to developed ones (Mbambo 1999). What people in developing countries need is not Internet connection as an end in itself. They need rather to be able to use the resources of the Internet for the effective management of knowledge, resources and ideas. They need also to benefit from a reciprocal exchange of information with people in developed countries. Both developed and developing countries need to cooperate in mutually beneficial enterprises as equal partners in global society (Reinecke 2000). Such a process would facilitate an efficient transfer of information. It would also accelerate speed of communication and create specifically African spaces and content on the Internet.

This work seeks to establish the degree to which the Internet generally and the WWW in particular can be translated into a knowledge management mechanism in developing countries. It investigates Internet environments in developing countries and factors that encourage or inhibit the dissemination of information within small micro and medium enterprises (SMMEs) in developing countries.

1.3.1 SMME sector in Botswana

The strength of Botswana's economy is dependent on the export of diamonds and beef (Kgengwenyane 2000). There have been calls for a diversification of Botswana's

economy from one that is dependent on diamonds and beef to one in which several other growing sectors complement the economy's emphasis on diamond and beef exports. SMMEs have been identified as a sector that could be a vehicle for growth and development in Botswana.

SMMEs employ 50% of the workers in the private sector, and contribute 15 to 20% of GDP (Lisenda 1997). The national strategic planning document "Vision 2016" highlights the critical role of SMMEs in the development of Botswana when it states that "these form the bedrock of any economy and give stability against external shocks" (Vision 2016:40). "External shocks" include drops in commodity market prices, fluctuations in foreign currency and similar occurrences over which Botswana has no control.

It is the policy of the Botswana government to encourage SMMEs. Activities mentioned in the SMME policy document include micro lending, financial assistance and training and creation of export markets. The governments lends to SMMEs indirectly through the National development bank. In a similar manner the *Small Medium and Micro Sized Enterprises Act* of 1998 states that access to timely information will be crucial for the success of SMMEs. The act further makes provision for increased access to and use of information technology (IT) to promote and sustain SMMEs.

Kgengwenyane (2000) appeals for a concerted national effort to embrace Information and Communication Technology (ICT) so that Batswana will be empowered to participate in the global economy. In his address, he calls for the development of a national information

technology policy and the innovative use of technology for the benefit of the business sector and the nation as a whole. What Batswana most urgently need, in Kgengwenyane's opinion, is to begin to transact various kinds of business on the Internet on an ever-increasing scale. His call is predicated on the assumption that the whole of Botswana is ready technologically, socio-politically and economically for this technological leap into the future. The question which this researcher raises is, "May we confidently assume that the people of Botswana are in fact ready for this quantum leap?"

SMMEs may be divided into various categories all sectors such as manufacturing, trade, textile, and service. The target population for this research is the **textile sector** of the SMMEs. The sector was selected because it employs mainly females and the researcher wanted to include a significant gender variable in her research.

1.3.1.1 Textile sector SMMEs

According to the Ministry of Commerce, 106 of the registered 858 small-scale manufacturing enterprises are involved in the textile sector, which includes garment making, household linen, and weaving. The sector therefore constitutes 12% of the total manufacturing sector. (Ministry of Commerce and Industry, (1999) Botswana's textile sector's activities are always conspicuous at trade fairs and fashion shows and are a source of pride for the country. At the Botswana International Trade Fair and Exhibition (2000), the textile sector occupied 15% of the stalls. In addition, entrepreneurs within the sector have formed themselves into an association called the Botswana Textile and Small

Scale Business Association (BOTSBOA.) This association represents the interests of entrepreneurs at various forums and encourages government and the large-scale sector to work in partnership with the small-scale sector. It is the Gaborone chapter of this association that constitutes the research population of this study.

The textile sector was chosen because it reflects a wide spectrum of entrepreneurs from highly trained operators to semi-literate workers (Botswana Enterprise Development Unit 1997). This diversity of skills, education and occupation makes it easier to compare the extent to which information is provided to educated and less educated entrepreneurs, and to compare their methods of accessing information. Ninety per cent of the entrepreneurs in this sector are women who are involved in dressmaking and linen making (*Botswana Chamber of Commerce and Industry Annual Report*: 1996). Studies have shown that women are among the least educated sector of the population in Botswana, and are more likely than men to have dropped out of school (Kereng 1993; Khan 1993). It was only after 1996 that the Botswana government created provision for school dropouts to receive the formal education that they missed by dropping out of the schooling system. Since many women lacked significant formal education, they learned practical skills that equipped them to earn a living. Linen making and dressmaking were among the most popular skills that women learned. Since this sector accounts for such a significant proportion of the population (individuals who have little formal education but who are often sole breadwinners), they urgently need a mechanism for accessing current information about activities such as banking, financial assistance – and whatever other

new programmes and services might be available to them all that might assist them in a business activities.

1.4 Definitions

What follows are the working definitions of terms that are used in this thesis.

Information. The question of what information is has been frequently raised in the literature. The American Library Association, quoted in List (1998), defines information as "all ideas, facts and imaginative works of the mind that have been published, repeated and/or distributed formally or informally". Shannon and Weaver (1949) quoted in *The Encyclopaedia of Library and Information Science*, state that information "is a quantity, which is measured in bits and defined in terms of the probabilities of occurrence of symbols". They define information in mathematical terms. This definition of information is not related to my thesis. Stonier (1990:21) states that "information exists, it does not need to be perceived to exist. It does not need to be understood to exist. It requires no intelligence to interpret it. It does not have to have a meaning to exist." Roszak (1986:13) says "information has come to denote whatever can be coded for transmission through a channel that connects a source with a receiver, regardless of semantic content." To an engineer, information is about *numbers*; to an economist, it is about *price* (Arrow, 1979).

Our working definition of information is an adaptation of the ALA definition. Information is all imaginative works of the mind that have been communicated, distributed or published. When it is received, processed and applied to a specific case it has a capacity to enrich the recipient's decision making.

Development. The *Collins English Dictionary* defines development as the process that brings a society to a more elaborate, more advanced stage by industrialization. The International Labour Organisation (ILO), and the World Bank concur in their understanding that development means alleviation of poverty, meeting basic needs of target populations and achieving certain desirable sociable objectives. The word "alleviating" in this definition suggests that the process of development is an action (or series of actions) that is performed by those who are already developed so that those who undeveloped are assisted, empowered and provided with skills and resources. In this research, the term "development" is used in the sense of "sustainable development". There is no single definition of sustainable development. In this work the researcher understands it to mean that those who undertake development fulfil a variety of human needs through the initiation, maintenance and delivery of socio-economic and technological progress in a continuous fashion while at the same time conserving both the earth's natural resources and the skills, possessions, resources and opportunities of human beings. Sustainable development of this kind always includes an increase in productivity in both its qualitative and quantitative forms, and it also leads to an increase in production and/or quality of service.

Internet. By *Internet* we mean a worldwide network of computers using telecommunications devices that include satellite and fibre optic links

World Wide Web. A hypertext system for publishing information on the Internet.

SMMEs. Small Medium and Micro Enterprises refer to enterprises that have a turnover of less than P100 000 a year and that employ less than 25 people.

1.5 Information and development

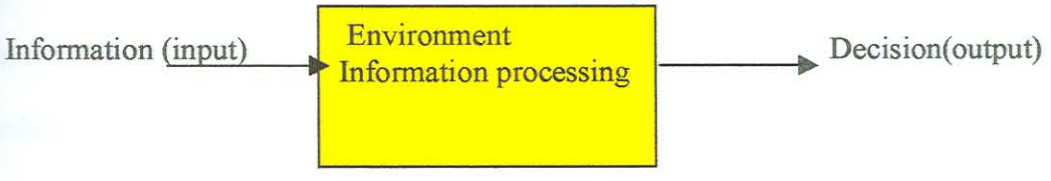
The main point of departure in this research is that *information is a development resource*. Development resources are those resources that a community utilises to fulfil its basic and advanced human needs as a result of the benefits that it receives as a result of being the beneficiaries of socio-economic and technological progress. Some of these resources include finance, education, health, skilled personnel, infrastructure, appropriate environments in which to perform tasks, and raw materials. It is not the mere *availability* of these resources that facilitates development, but rather their *use* in a specific context that facilitates development.

The Universal Declaration of Human Rights, adopted by the UN in 1948, first stated that information is a resource in the development process. Schram (1964) says that information is a national resource that is required to facilitate the development process. Information facilitates informed decision-making in the development process. Without

information people cannot make informed decisions (Mchombu,C. 1996). Poser (1990) suggests a whole new dimension of information in development when he identifies the emergence of an "information mode" of production in which productivity depends on information. He argues that the current era in human development is called *the information society* because of our dependence on information for production and productivity. Those who have crucial information can make informed decisions and meet their gaols and production targets. Conversely those without vital information simply cannot function effectively in this era of the information mode of production.

The role of information in decision-making is illustrated in the diagram below. Information is input into a specific situation. This input is then processed. As a result of this process, decisions are made. Mchombu (1996) is of the opinion that relevance and timeliness of information input is critical to a decision-making process. It is this *usability* of information in application to a specific situation that allows us to distinguish between *information* and *knowledge* Mchombu (1998).

Figure 1 Information in decision-making



1.5.1 The role of information in development

Schram (1964) identifies the following three roles of information in development.

(1) *The watchmen role*. This role is largely performed by the mass media as they keep citizens informed about crucial issues and developments in their society.

(2) *The policy role*. In this case, the role of information is to provide whatever information governments, corporations, and community leaders need so that they can make decisions and apply them at all levels of society.

(3) *Teacher role*. In this role, information facilitates socialization through social institutions such as schools, families, religious organisations and various kinds of groups and associations.

Although these roles were identified several decades ago, each of them is still prominent in the field of information science today. They serve to demonstrate the multi-faceted role of information in the development process and remind us that information is vital for all sectors of the community. Nothing of importance in society can happen without the availability of appropriate information.

The optimal *quantity* of information that is necessary if these roles are to be fulfilled has also been the subject of debate. Schram (1964: 49) says, "information availability and the wideness of its distribution is directly related to the level of development". However, Bell (1979) argues that it is *content* rather than the *amount* of information that is crucial to the development of society. Rao (1963) – writing before Schram (1964) – and Bell (1979) takes a middle approach when they note that while it is true that economic development leads to an increase in the flow of information through the greater purchasing capacity of people it is also true that increased information in turn furthers economic development.

Menou (1993:25), however, contends, "contrary to the views of 1950 and 1960, information is no magic recipe for development". Menou states that this view erroneously assumed that *all* information is good for development and that information is free. He concludes " the value of information may lie more in its versatility… than in its straight application to the activities for which it was originally meant" (Menou 1993: 25). In other words, information is valuable, not primarily because it enables one to solve a particular problem, but because it has potential for multi-sectored application.

The relationship between the information and development is both complex and intricate. Whether a causal relationship exist between these two factors is not immediately clear. What emerges in the literature cited above is that the relationship between information and development is both dynamic and cyclical. While information

is an essential catalyst in development, the development process also produces information.

1.5.2 Information, media and development

Several tools exist for transmitting information. These include books, radio, television, oral presentations, art, newspapers and the Internet. Marshall McLuhan's dictum that "the medium is the message" implies that the medium and the message are intimately connected. This statement suggests that the tool or medium of transmission "interferes with", influences or affects the transmission and delivery of content.

Schram (1964) states that the medium in which information is communicated affects the amount of information delivered and the impact that it has on the lives of recipients. He further states that the *efficiency* of a medium also affects development. The more widely available and accessible information is, the more development may be facilitated. Conversely, if information is restricted, controlled, highly priced, limited, censored and constrained, the less likely it is that development will take place. The capacity of a medium to spread information, according to Schram (1964), affects the degree of development. Schram states that the availability of information in whatever media provides a "climate for national development" (Schram 1964: 43).

Schram (1964) first demonstrated the relationship between socio-economic development and the type of medium for disseminating information by asserting that every stage of development has its own appropriate media for transmission. While pre-

industrial society may have used drums to communicate, post-industrial society might use radio or cables. He further notes the close interaction between social development, the type and quantity of information and the type of medium used for transmission.

In the 21st century, Ngwainmbi (2000) concurs with Schram (1964). He argues that there is a relationship between medium, information and socio-economic development. He states that information technology developments in the twentieth century can be used to correlate IT with socio-economic development. The extent of IT usage is directly proportional to the extent of development. One might however argue that although a relationship may exist between information technology and development, it is not necessarily a causal one. The relationship may be an example of reversed causality: the more the development that takes place, the more are the information technology applications that occur.

Ngwainmbi (2000:2) further argues that the distribution of information technology equipment can "affect and influence development". He adds that information technology promotes economic development. The United Nations shares a similar position when it asserts that the Internet will hasten African development (*The Economist* 2000). The research will focus on how the Internet facilitates the transmission of current information. While it is assumed that making the Internet available will ease access to information, this research will make no value judgements about the *type* of information that should be transmitted on the Internet.

Bell (1979) and Daly (2000) argue that it is neither the medium nor its ability to transmit large quantities of information that is important to development, but rather the depth and relevance of the content. This researcher concurs with Bell (1979) and Daly (2000) that the content of information is more important than the amount and the medium. It is my belief that the subject of information is more critical to the development process than the mechanism for transmission and the amount being communicated. Choice of media should depend on the context of the recipients and be appropriate for their level of economic, cultural and technical development.

1.5.3 Translating theory into research

This work engages to some extent in the debate on the relationship between medium and development. It examines both the medium and information in two ways:

(1) It examines issues relating to the Internet and development by reviewing various questions raised in three specific discussion lists on the Internet and development.

(2) It considers how useful the WWW may be as an information medium among small business entrepreneurs in Botswana.

1.5.4 Working framework

The role of information in development has been widely discussed in the literature (Braun 1999; Mbambo 1996; Raseroka 1992; Menou 1993; Schram 1964). The critical role of information in Botswana is well articulated in Botswana's SMME Act, which recognizes the growth of SMMEs as a factor in the socio-economic development of Botswana. The facilitating role of information in development requires an appropriate delivery mechanism. The Internet has been clearly identified as a 21st century information delivery mechanism (Ngwainmbi 2000; UNDP panel of experts 2001 ; World Bank 1998). This research considers the extent to which the Internet can be a useful vehicle for exchange of business information in the SMMEs sector in Botswana.

The process of measuring this factor requires the isolation of measurable variables within an established framework of analysis. Daly (2000) discusses several frameworks for analysing the impact of the Internet in developing countries. He notes that measuring the impact of the Internet on development is a complex issue, and he suggests that selection of either a quantitative or qualitative framework should be determined by the context of the situation in question. He cites the following frameworks:

- *Internet counts*. These are quantitative indicators that can be used to illustrate the penetration of the Internet in a sector.
- *Technology transfer*. This measures the extent to which an organization incorporates technology into its operations, and how this affects the organisation and its environment.

- *Acacia Telecentre Evaluation*. This framework was formulated to examine the extent of use and impact of telecentres in Africa. (Telecentres are community information centres that provide non-profit telecommunication services to communities). It uses both quantitative tools (questionnaires, interviews, surveys) and qualitative methods (observation, key informants, participatory research).
- *IDRC framework*. This framework compares objectives of the ICT project with user studies and relies on feedback from group being studied.
- *Press framework*. This framework was developed by Larry Press and his associates and examines the extent of the penetration of the Internet in a nation. It examines density of Internet use, sectoral absorption, and degree of sophistication in use.
- *Pimienta model*. This uses a series of indicators (such as national connectivity, international connectivity, users, social impact) and allocates scores on a scale of 0--100% .

Other less frequently used frameworks are:

- The Lan-Franco Meta-Level Framework The Graham Study
- Framework for the Study of Civil Organization
- The Lefebvres Framework
- The CTA Model

- Life Cycle Model
- The Barton Bear Framework
- The Stages Theory

After considering all these frameworks, researcher found that no single one was completely appropriate. She therefore decided to utilise a hybrid model that incorporates features of both the IDRC framework and the Acacia model. In both these models a service (based on user analysis) is provided, and then the use of that service is evaluated. By using the same premises, the researcher designed a website in the case study section of this thesis. The researcher then followed this up with formative and summative evaluation to test the effect and usability of the web site.

1.6 Significance of the research

The results of this research will have the following significance:

(1) Those issues that need to be considered when using the Internet in developing countries will be identified.

(2) A foundation for further research into the Internet and SMMEs in Botswana will be provided.

(3) Appropriate mechanisms for either harnessing the Internet or for discarding it if it is found to make no really helpful contributions, will be identified.

(4) A contribution to the body of knowledge on the relationship of design, information, the Internet and development will be made.

1.6.1 Similar research

Several studies have been conducted into the use of the Internet in developing countries. The International Centre for Research and Development (IDRC of Canada has funded several such studies (IDRC: Http://www.idrc.ca). The Association of Progressive Communication (APC) and Femnent (2000) conducted a study to establish how African women were using the Internet. Mbambo (1999) did a study on Internet connectivity in Botswana. Duncombe and Heeks (1999) carried out a study into the use of Information Communication Technology among small-scale businesses in Botswana. There was a significant gap in the literature on the use of the Internet by women in business in Africa.

In order to compare the case study material to other web sites, the WWW was scanned for similar sites. Several search engines run small business information sites. Netscape.com has a small business section. Alta Vista.com also has a similar site. In the United Kingdom, the Department of Trade and Industry also runs a site for small-scale business. The researcher however was not able to find a site that is dedicated to the textile sector in Botswana or elsewhere in Africa.

1.6.2 Research plan

The research was done over a 24-month period. A detailed discussion on the research methodology used is presented in chapter two.

1.6.3 Methods

Two methods were used to gather data: content analysis and case study. Content analysis is used in the analysis of the discussion lists on the Internet and development, while the case study method was used in evaluating the web site. This study uses both qualitative and quantitative techniques. In this study the views expressed by individual people are more significant than the mere numbers who expressed a particular opinion.

1.6.4 Population of study

There are two target populations in this study. The first target population comprises the virtual community of participants in three e-mail discussion lists. These discussion lists are: the Global Knowledge listserv, GK List; the United Kingdom Department for International Development List (DFID) List; and the Africa, Technology, Information and Development (AFTIDEV) List. The second population is the Gaborone Chapter of BOTSBOA. Sometimes they are referred to as *entrepreneurs* in this study. Entrepreneurs in the study means those who are already running a registered business. They are defined in *The Concise Oxford Dictionary* as "persons who undertake an enterprise or a business with the chance of profit".

1.6.5 Research timetable

The research timetable was determined by the Group for the Advancement of Multimedia Exploration (GAME) schedule and was adhered to.

1.6.6 Literature Review

The literature review seeks to identify research that has been done in each of the research objectives of this study.

1.7 Product

The research results are presented as a thesis that is accompanied by a CD-ROM database product. It is anticipated that this product will be usable in the information centres that provide information to small business entrepreneurs and that it will be available on the web for those with WWW access.