The information needs and information seeking behaviours of SME managers: a study of the manufacturing industry in Botswana.

Thesis Submitted for the degree of Doctor of Philosophy

by

Boemo Nlayidzi **Jorosi**

University of Strathclyde

Department of Computer and Information Sciences

May 2004

ACKNOWLEDGEMENTS

No writing of a Ph.D. thesis is ever an individual project, and this thesis is no exception to the rule. Many people contributed to this work, but space does not permit me to list all of them here.

I am greatly indebted to my supervisor, Paul F. Burton for his invaluable advice and thoughtful comments throughout every stage of the project. He successfully steered me through the turbulent and murky waters of information behaviour research. I would also like to take this opportunity thank Dr. Monica Landoni for her insightful advice and guidance.

I must thank the University of Botswana, my sponsor and employer, for granting me both study leave and financial support respectively, for without their generous support I would not have been able to undertake this work.

I also want to extend thanks to my respondents for participating in both the survey and interviews. Data collection for this study would have been impossible without their generous cooperation. However, for reasons of confidentiality, their names cannot be mentioned here.

A special thanks is due to colleagues in the Department for their thoughtful comments, criticism, advice, and support. The list includes: Ali Shiri, Siti Shariff, Glen Campbell, Puay Lee, Linda Hunter, Duncan Sinclair, Catriona Murray, and Zakia Majid.

Another special thanks is due to the Batswana community in Glasgow for their support, help and friendliness. The list is long, but the following deserve mention: Edgar Pilane, Lebogang Bogopa, Juda Bogopa, Tlhalefo Bogopa, Mahube Mpugwa, Jinnifer Tumelo, Mpolokeng Maseko, Edwin Samuel, and Christine and Finlay Mackenzie.

Finally, I wish to express my gratitude to **all** the members of my family for their moral support and motivation. The list is long. However, the following deserve special mention. My late father, Jorosi Mukawe and my mother, Kesekile Mukawe, for charting the road map to this project. Wananani Tshiamo, who constantly monitored my health. My dear wife Julia Jorosi, and our lovely children Chaikhwa, Kagiso, and Mitjelo for their understanding and patience. I dedicate this thesis to my parents, Kesekile and Jorosi.

Abstract

The purpose of this study is to investigate the information needs and information seeking behaviours of small and medium-size enterprises managers (SMEs) in Botswana's high-profile manufacturing industry. As the business environment becomes more complex and dynamic, it becomes increasingly vital for top executives of small firms to utilise information from a variety of sources to make consequential decisions about the survival and prosperity of their organisations. The overall objective of the study is to better understand the information needs and information seeking behaviours of this unique and unstudied group of users in a developing nation socio-cultural country context. Specifically, the study addresses the following research questions: (1) which types of information do SME managers need; (2) how much information seeking is done by SME managers; (3) what types of information are sought by managers; (4) which information sources are utilised by managers; (5) which factors influence selection of information; and (6) in what ways do managers use the acquired information?

The research design, which was developed to address the research issues, comprised both quantitative and qualitative research methods. The quantitative research method was an exploratory mail survey (**n=400**) of Botswana's manufacturing firms in eight industrial classifications. The survey was used to obtain broad patterns and evidence concerning the information behaviour of SME managers. The qualitative research method (follow-up face-to-face interviews) was explanatory case-based research. A convenience sample (**n=9**) of SME managers drawn from each sector provided rich descriptive information about their information needs and information seeking behaviours, which were used to build case studies. The case study research was used to confirm the survey results (a process of triangulation) and more importantly, to explain the trends and patterns observed in survey results analysis.

The key findings of the study indicate that: (1) SME managers consider customer and competition information to be the most important types of information to their firms; (2) SME managers devote a significant time to active information seeking and on average, spend approximately 5 hours seeking information; (3) SME managers spend time seeking customer and competition information; (4) they use both personal (customer, business associates) and impersonal sources (newspapers,

broadcast media, and government publications); (5) information source selection is determined largely by accessibility and ease of use; and (6) managers utilise information as they go about performing their routine day-to-day activities and making important decisions.

It is concluded that in spite of their size and resource limitations, SMEs need more information than ever before. Globalisation has heightened uncertainty and therefore SME managers need external information to predict environmental changes and their impact on the organisations. Accordingly, and as suggested by the evidence from both data sets used in this study, SME managers are dynamic consumers of information and information seeking is an activity intrinsic to SME managerial work. Finally, information is not a homogeneous entity, that is what constitutes information to one group of users is dependent upon the contextual and situational peculiarities of a given setting.

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List of Abbreviations

ACP	African Caribbean and Pacific
ACHAP	African Comprehensive HIV/AIDS Partnership
AGOA	African Growth and Opportunity Act
ALDEP	Arable Land Development Programme
ASK	Anomalous States of Knowledge
ARV	Anti-Retroviral
BCOM	Bachelor of Commerce
BSS	Bachelor of Social Sciences
BAMB	Botswana Agricultural Marketing Board
BBC	British Broadcasting Corporation
BDC	Botswana Development Corporation
BDP	Botswana Democratic Party
BECI	Botswana Exporters Credit Insurance
BEDIA	Botswana Export Development and Investment Authority
BIDPA	Botswana Institute for Development Analysis
BMC	Botswana Meat Commission
BoB	Bank of Botswana
BOCCIM	Botswana Confederation of Commerce, Industry and Manpower
BONEPWA	Botswana Network for People Living with HIV/AIDS
CEDA	Citizen Entrepreneurial Development Agency
CEO	Chief Executive Officer
CIT	Critical Incident Technique
CPI	Capital Planning Information
CRUS	Centre for Research in User Studies
CSO	Central Statistics Office
D&B	Dun and Bradstreet
DLIS	Department of Library and Information Science
DPI	Department of Industrial Affairs

DSS	Decision Support Systems
DTI	Department of Trade and Industry
EDI	Electronic Data Interchange
EAOB	Exporters Association of Botswana
ECA	Economic Commission for Africa
EIS	Executive Information Systems
ELIS	Everyday Life Information Seeking
ESS	Executive Support Systems
EU	European Union
FAP	Financial Assistance Policy
FDI	Foreign Direct Investment
FMD	Foot and Mouth Disease
GDP	Gross Domestic Product
GDSS	Group Decision Support Systems
HND	Higher National Diploma
IB	Information behaviour
IDP	Industrial Development Policy
IEM	Information Environment of Managers
IFS	Integrated Field Services
IMF	International Monetary Fund
INSU	Information Needs Seeking and Use
INFROSS	Information Requirements of Social Scientists
ISIC	Information Seeking in Contexts
ISP	Information Search Process
IUE	Information Use Environments
IT	Information Technology
LIS	Library and Information Science
MBA	Masters in Business Administration
MIS	Management Information Systems
MFDP	Ministry of Finance and Development Planning
NACA	National Aids Co-ordinating Agency
NDB	National Development Bank
NDP	National Development Plan

PEEPA	Public Enterprises Evaluation and Privatisation Agency
SACU	Southern African Customs Union
SADC	Southern African Development Community
SME	Small and Medium-size Enterprises
SMME	Small Micro and Medium-size Enterprises
SIC	Standard Industrial Classification
SIS	Stages of Information Seeking
SPSS	Statistical Package for Social Sciences
SRDP	Selibe-Phikwe Regional Development Programme
SSA	Sub-Saharan Africa
TDM	Total Design Method
UB	University of Botswana
UBLS	University of Botswana Lesotho and Swaziland
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural organisation
USA	United States of America
VAT	Value Added Tax
WEF	World Economic Forum
WTO	World Trade Organisation

Definition terms

The field of information behaviour research is characterised by terminological inconsistencies, where terms such as information, information need, information seeking, etc. are often employed interchangeably or interpreted in multiple ways. The resultant necessity is therefore to attempt to define terms in order to facilitate understanding. For purposes of this study, the terms used here are defined as follows:

1. **Information:** data from the environment, i.e., external or business intelligence or data pertaining to the six environmental sectors: competition, customers, technology, economic conditions, sociocultural and regulatory (Boy and Fulk, 1996; Gilad, 1994; Daft *et al.*, 1988).
2. **Information need:** is defined as any state of affairs characterised by the possession of inadequate knowledge (gaps or lacks) needed to make decisions or go through a new situation related to an SME manager's job.
3. **Information seeking:** is defined as the process of identifying and choosing among alternative sources of information (Rouse and Rouse, 1984) or a process in which humans purposefully engage in order to change their state of knowledge (Marchionin, 1995). That is, any activity or strategy such as asking questions or visiting libraries or reading magazines, undertaken in an attempt to resolve an information need i.e., 'gaps' or 'lacks' or uncertainty' related to one's work. (Dervin, 1992).
4. **Information behaviour:** According to Wilson (1997), a respected authority on user studies, information behaviour is preferred to other terms, such as 'information seeking behaviour' and' user needs', because it embraces a range of behaviours, including seeking.
5. **Environment:** is defined as the totality of physical and social factors that are taken into consideration in the decision-making behaviour of individuals in the organisation (Duncan, 1972). It is also viewed as a source of information, continually creating signals and messages that organisations should attend to (Dill, 1962; Weick 1979).

6. **SME**: in Botswana's context is defined as a firm which has employees ranging from 10 to 99 and annual turnover of between P60, 000 (US$10,800 and P8m (US$1.44m) (SMME Task Force Report, 1998).

7. **SME manager**: is defined as either owner/or employed person entrusted with responsibility to oversee the day-to-day operations of the firm (CPI, 1982). Some writers prefer the term chief executive officer (CEO); others use terms such as vice-president or director. For the sake of conformity with related studies on small firms, we use both manager and CEO interchangeably throughout this study.
8. **Information source**: an individual or media that originates or contains the information. Following several writers (e.g., Aguilar, 1967; Keegan, 1974; El Sawy, 1985; Choo, 1994; and Butcher, 1998), information sources are classified into four categories: Internal, external, personal and impersonal. The internal and external source categories relate to the location of the source, i.e., whether the source is from within or without the organisation. Personal sources are those that communicate information personally to the manager (use audio and visual channels) whereas impersonal sources are those that communicate information to broad audiences or through formalised group communication activities (see figure 1. below).

Fig. 1 Sources of managerial information on the external environment

Internal	**External**
Personal	*Personal*
Subordinates Peers Superiors	customers suppliers business associates Peers Professional advisors
Impersonal	*Impersonal*
Reports Memos Scheduled company meetings Databases intranet	newspapers periodicals government publications trade and professional publications web sites commercial databases annual reports clipping service television and radio advice agencies

Chapter 1: Introduction and Background

1.1 Introduction

During the last four decades or so, firms have faced unprecedented change as a result of several factors including: globalisation, political realignment, and rapid advances of information technology (Kanter, 1991; Hammer and Champy, 1993). Against this background, external information has quickly gained centre-stage status as an extremely valuable corporate resource (Mintzberg, 1973; Reid, 1986; Taylor, 1986; Kalseth, 1991; Auster and Choo, 1991; Katzer and Fletcher, 1992; Caldwell, 1993; Drucker, 1993; Repka, 1993; Best, 1996; Chalmers, 1995; Choo, 1998; Vaughn, 1998), and hence there is now a pervasive need to gather it. One of the main roles executives have is monitoring information from a variety of sources about their organisations and their environments (Mintzberg, 1973). As the business environment becomes complex and dynamic, it becomes increasingly vital for top executives to monitor the external environment to identify strategic threats and opportunities (El Sawy, 1985; Milliken, 1990): the greater the change in the environment, the greater the need for information gathering (Thompson, 1967; Galbraith, 1973; Daft *et al.*, 1988; Boyd and Fulk, 1996; Leonidou and Theodosiou, 2004). Guided by their social context, culture, organisational norms, history, and power considerations, executives select information to tell them where, when, and toward what their attention should be directed to help formulate or define organisational problems (Mason and Mittroff, 1981; Swenk and Thomas, 1983).

Without relevant external information, executives would be unable to reactively, and proactively, adapt their organisations to environmental changes in order to survive and prosper. Given proper problem formulation, information helps executives establish options and select courses of action (Mintzberg *et al.*, 1976; Simon, 1965). Information can also help stimulate creativity and generate scenarios (McCaskey, 1982), determine environmental key trends, changes, issues and events of current or potential importance to the organisation (Specht, 1987), and monitor performance and control activities (Gorry and Scott-Morton, 1971). Furthermore, information is the fuel for planning and 'strategising', i.e. formulating and implementing important decisions toward the vision of the organisation's future

(Mintzberg, 1981). Moreover, other writers suggest a direct link between information and improved performance or bottom line. Prusak (quoted in Butcher, 1998: 64), in a survey of top Japanese companies showed that 'they spent much time collecting, processing and disseminating business intelligence'. He described them as having a 'preoccupation with the actions of their competitors' and suggested that it was the use of information that helped them maintain their competitive position. Similarly, Daft *et al.* (1988) found that chief executive officers (CEOs) in high performing firms made more and better use of information. Conversely, failure to scan has been associated with corporate decline and failure (Starbuck *et al.*, 1978).

Effectively then, without information, executives simply cannot function smoothly, and the rapid proliferation of electronic management information systems such as decision support system (DSS), electronic data interchange (EDI), group decision support systems (GDSS), executive information systems (EIS) and expert systems all epitomise the perceived value of information to firms. In a similar way, the plethora of various discipline-specific literatures and overlapping terms such as business intelligence, corporate intelligence, competitive intelligence, environmental intelligence, market intelligence, external intelligence, and environmental information all signify the value of information to many of today's corporations.

1.2 Rationale for study

While there is considerable agreement among scholars on the importance of external information to the survival and performance of today's business organisations, and also on the need for top managers to continually search for information, the literature reveals two apparent limitations. First, much research on the information behaviour of executives has focused on large firms, to the extent that some critics argue that it suffers from a malady called "big business syndrome" (Specht, 1987). However, small firms are intrinsically different from their larger firm counterparts (Welsh and White, 1981; Bergeron, 2000; Burns, 2001). Welsh and White (1981:234) aptly express this important distinction in the following way: "smaller businesses are not smaller versions of big businesses". Small and medium-sized firms differ fundamentally from larger firms in ownership, resources, capabilities, organisational structures and processes as well as management systems

(Jarillo, 1989; Obviatt and McDougall, 1994; Lu and Beamish, 2001). To corroborate the notion of differences between small and large firms, researchers specialising on SMEs have demonstrated that one cannot assume that what holds true for large organisations can be transferred to SMEs. It might be, and it is often different (Bergeron, 2000). Similarly, the information needs, and information seeking behaviour, of SME managers cannot be inferred from those of the behaviour managers of larger firms nor can the information behaviour of managers in large organisations be superimposed on to SME managers. In fact, Choo (1998) effectively stresses this point, while he cautions, making another important point about a misperception regarding SMEs information needs: "SMEs need to know about their external environment as much, if not more, than their larger counterparts" (Choo, 1998: 205).

Clearly, for SMEs, in contrast to their larger firm counterparts, the task of acquiring external information presents a particularly big challenge. SMEs are unique. They operate in a very competitive global environment where competition for resources and markets are a major consideration, but because of their size, SMEs cannot afford the luxury of strategic planning staffs and personnel that larger firms possess. Also, senior management in SMEs frequently means one individual, and not a group or a team of managers. Furthermore, SMEs have limited financial resources, and thus can ill-afford hiring the services of an expert for information searching (Welsh and White, 1981; Barrier, 1994; Kinni, 1995) As a result, they are confronted with a net situation where they are doing more with less.

Second, the sparse literature on managerial information needs, and of information seeking behaviour of managers of SMEs, is dominated exclusively by studies that were conducted in developed nations such as the United States of America, United Kingdom, Australia, New Zealand, Canada, and Norway. To date, no studies have been uncovered that focus on a developing country context. However, considerable relevant research on business management in developing countries suggests that the two contexts are radically different (Fubara, 1986; Mrema, 1987; Sawyerr, 1993; Yavas, Kaynak and Dibe, 1985; Elenkov, 1997). On the one hand, financial limitations, low educational levels, highly unstable political and economic environments, low technology adoption, poor infrastructure and training facilities afflict the social context of a developing country. On the other hand, the social context of a developed country (Western industrialised countries) is a well-endowed one, characterised by general resource munificence. In brief, it is the opposite of the former (Sawyerr, 1993; Odedra-Straub, 1993). Consequently, the findings of a study conducted in one geographic and social context have limited applicability in another context because of significant differences in the contexts. Likewise, the information behaviour of SME managers in a developed country context could not be generalised to a developing country context, and *vice versa.*

Researchers specialising in the sub-field of information seeking in context (ISIC) pinpoint the importance of the social context in influencing the information behaviour of a given group (Belkin, 1980; Wilson, 1981, 1994; Taylor, 1986, 1991; Katzer and Fletcher, 1992; Kuhlthau, 1993; Ingwersen, 1996; Dervin, 1997, 1999; Savolainen, 1997; Pettigrew, 1999; Sonnenwald, 1999). To these writers, and a spectrum of others, context is fundamental as the source of meaning, and two statements aptly capture their shared view. Taylor (1991:243) who defines context, or the information use environment (IUEs), as the set of those elements that: (a) affect the flow and use of information messages into, within, and out of any definable entity; and (b) determine the criteria by which the value of information messages will be judged, regards users as "purposive actors who do not live in a vacuum but in the midst of social contexts". In other words, the final determiner of information value is the user who sits in a particular context and develops criteria of information value from that context (see section 2.1.7 of chapter two for a fuller discussion). In a similar vein, Kuhlthau (1993:10) cautions 'to neglect context is to ignore the basic motivations and impetus that drive the user's information seeking process'. Thus, context plays a deterministic role in shaping which elements affect information value and information behaviour (information needs and information seeking patterns). In essence, human information behaviour is a socially embedded and context-dependent, which is to say that, it is affected by both individual and contextual (abstract and concrete) characteristics.

Taken together, these shortcomings lie at the heart of repeated calls for: (1) research into actual ways in which managers of SMEs obtain information (Streatfield, 1983; Roberts and Clifford, 1986; Roberts and Clarke; 1988); (2) context specific studies (Taylor, 1986, 1991; Katzer and Fletcher, 1992; Kuhlthau, 1993; Wilson, 1994; Dervin, 1997; Bergeron, 2000). Clearly, the empirical literature review on information needs and information seeking behaviour reveals a dearth of studies on the information behaviour of SME managers in the developing country social context. It is this gap that is the focus of this research.

In order, therefore, to identify the information needs and information seeking behaviours of SME managers, we address the following research questions developed from a review of related literature:

1. Which types of information do SME managers consider important?
2. How much seeking of external information do managers do?
3. What types of information do managers seek?
4. Which information sources are utilised by managers?
5. Which factors influence information source selection?
6. In what ways do SME managers use the acquired information?

Our research questions highlight the SME managers' real-life concerns. That is, work related issues. In the following sub-sections, and based on previous pertinent research, we separately provide theoretical foundations for each research question.

Which types of information do SME managers regard as important?

The importance of information to managers has been stressed by so many authors (e.g. Mintzberg, 1973; Porter and Miller, 1985; Smeltzer *et al.*, 1988; Fann and Smeltzer, 1989; Vaughn *et al.*, 1996; Vaughn, 1998; 1999). Because the business environment that SMEs inhabit is the source of opportunities and threats, and SMEs managers need different types of environmental information, depending on the industry context and other circumstances. Thus, the types of information managers need relate to the external environment, that is, the total of outside factors which influence, or may influence, any aspect of the organisation (e.g. goals, structure, size, plans, procedures, operations, input, output, human relations) (Ansoff, 1965:10). However, while managers of SMEs seek a range of information, some of the information is regarded as more important than the rest. A logical starting point in our enquiry is therefore to uncover which types of information SME managers regard as most important for their businesses. Accordingly, we adapted Daft *et al.*'s (1988) six environmental sectors into six types of potential information that managers in this study could need. The main reason for this decision was that using the environmental sectors comprehensively captures the broad range of areas or exogenous factors from which external information is generated.

How much seeking of external information do managers do?

The extent to which managers seek information depends on a range of several factors. For example, the turbulence (rapid rate of change) in the business environment (Boyd and Fulk, 1996); the manager's predisposition to information gathering and processing (Miller and Friesen, 1978), and the context or IUEs in which the manager is situated (Taylor, 1986, 1991). Given the well-documented resource limitations of small firms (Welsh and White, 1981; Barrier, 1994; and Kinni, 1995; Burns, 2001), the relentless pace of managerial work, and the rampant information overload of today's era, it would be instructive to examine how much time SME managers actually devote to information seeking. Germane extant empirical literature has tended to concentrate on information needs and sources, overlooking this important link in the human information acquisition and use process.

Which types of information do SME managers seek?

Whether SME managers seek the types of information that they consider to be important or their information searching is dedicated to other types of information, is a logical and vital question to pose in order to gain a more accurate picture of the information behaviour of these executives. By using the same list information types adapted from Daft *et al.* (1988) as in *Research Question 1*, we sought to uncover any correspondence between the types of information rated important and the type of information sought frequently.

Which information sources do SME managers utilise?

The work of managers is information intensive (Mintzberg, 1973; Katzer and Fletcher, 1992; Choo, 1998). By virtue of their positions and the roles they play, managers are exposed to information about the external environment flowing from a wide range of sources inside and outside the organisation. Confronted with this wide array of potential sources, we need to have a better understanding of which information sources are actually utilised by SME managers. To generate a contextual picture of the sources that managers utilise, both information science and environmental scanning literatures were very useful. Extant studies commonly classify sources of information according to whether they are internal or external to the organisation and whether they are personal or impersonal. The internal and external source categories merit no explanation as they are about location. Following the classification adopted by Aguilar (1967) and Keegan (1974), personal sources are those that communicate information to broad audiences or through formalized, group-communication activities (see figure 1). Impersonal sources would include publications, conferences, libraries and on-line databases. Thus, the information sources in this study represent all the four categories: external internal personal and impersonal. However, our list of questions has been adapted to suit the SME manager context. For example, sources such as conferences, meetings, observational tours, trips, circulars, internal memos, and company libraries were dropped as they were deemed to suit managers of larger firms.

What factors influence information source selection?

The choice of an information source is far from being a haphazard activity: a range of personal, situational, and task factors may affect the selection and utilisation of information sources. Previous information behaviour research has investigated the determinants of source usage by several user groups, among them scientists and technologists. In most of these studies, it has been concluded that accessibility is a strong predictor of source selection and use (Rosenberg, 1967; Gertsberger and Allen, 1968; Allen 1977). In past user studies, accessibility was operationalised as the physical proximity of the source, as well as the time and effort needed to access it. As for perceived source quality, the research of Zmud (1978), Taylor (1986) and Halpern and Nilan (1988) suggests that the most important information quality dimensions would include: relevance, reliability and accuracy. Given the study's unique social context, it was thought instructive to find out from a modified pool of factors, which ones influenced the selection of information sources among SME managers. To be more specific, we concentrated on: accessibility (easy to obtain), reliability (dependable/trustworthy), ease of use (free of effort), and relevance (perceived usefulness to your firm).

What use is made of the external information acquired from the array of sources?

The acquisition of information from sources is not an end in itself (Hardy, 1986). On the contrary, information is acquired from the sources in order to be used for the benefit of the firm. According to Mintzberg (1973), one important role that managers have is to monitor information from a myriad of sources about their organisational environments. In a similar vein, Swenk and Thomas (1983) suggest that executives select information to tell them where, when, and toward what their attention should directed and to help them define organisational problems. In brief, extant management research suggests that managers use such information for a range of specific purposes: (1) as a key decision tool or as input in decision making; (2) for environmental scanning, an information acquisition tactic that is considered a necessary antecedent to the development of goals or primary strategies; (3) and organisational learning (Dess, 1987). However, much of the focus of this research was on larger firms. Consequently, we know very little about the exact uses to which SME managers put this information. Decision-making, corporate planning and environmental scanning are complex and intricately related issues that span several disciplines and have a plethora of theories that purport to explain them. As a result, they are beyond the scope of this study. As our intention is to investigate the information behaviour of managers, we only probe learning about the outside environment and decision-making at an exploratory level, as possible uses to which SME managers put the external information.

Taken as whole, these research questions capture the information behaviour (IB) of SME managers; that is, the information needs and information seeking behaviour of men and women who preside over SMEs.

1.3 Nature of the study

The study reported here has some features that merit explanation in order to avoid misunderstanding. The work parallels the vast majority of user studies focussing on various categories of user groups such as engineers, scientists, scholars, chemists, and many others. However, this research project was conceptualised as an information-seeking-in-context (ISIC) study falling into the general 'Alternative paradigm' (refer to 2.1.2) as described by the following classical studies: Belkin's (1980) *ASK* theory, Dervin and Nilan (1986) in their landmark review of user studies, Taylor's pioneering work (1986, 1991) on information use environments, and Kuhlthau's (1993) seminal study on uncertainty concept. Ever since the publication of the work by Dervin and Nilan (1986), there have been numerous calls for situation-specific studies (Taylor, 1986, 1991; Kuhlthau, 1993; Wilson, 1994; Dervin, 1997; Bergeron, 2000). Unsurprisingly, in recent years, there has been a growing interest in ISIC studies, as testified by the holding of three dedicated conferences on the topic in Tampere, Finland in August 1996 *(ISIC1)*, Sheffield, United Kingdom (UK) *(ISIC2)* and Gothenburg, Sweden in August 2000 *(ISIC3)*. Consequently, there are many excellent exemplars of this sort of research in context, including Marcella's (2001) and Marcella and Baxter's (1999, 2000) seminal investigations of the citizenship information needs of the UK public, and Keane's (1999) study on the information behaviour of senior executives and Spink *et al.* (1999) study on information seeking behaviours of low-income African Americans. Some other previous studies have investigated the information seeking behaviour of cattle ranchers (Spink and Hicks, 1996), battered women (Harris, 1988/1989), students and library users (Kuhlthau, 1991), the information poor (Chatman, 1997), university researchers (Ellis, Cox and Hall, 1993), seniors (Pettigrew, 1999) and everyday life information seeking (ELIS) by citizens (Savolainen, 1996). Essentially, the important study of information needs and information seeking in context is an emerging and hot area of interdisciplinary information science research.

Consistent with many previous ISIC studies, this study is an enquiry into the information needs and information seeking behaviours of SME managers in the manufacturing industry of the Republic of Botswana. Thus, the study investigates the information behaviour of managers operating in a developing country context as opposed to a developed-nation situation. Several writers including Kuhlthau (1993) and Chatman (1996) observe that library and information science (LIS) is at theory building phase. Recognising this important stage, and responding to pleas for context studies and to contribute to LIS theory building, our study is largely exploratory (Kerlinger, 1986). That is, the objective is to become more familiar with the topic. Malhotra and Grover (1998) suggest that exploratory research appears to be most suitable when the certainty with respect to knowledge of a particular phenomenon is low. As the certainty with respect to knowledge of the particular phenomenon increases, explanatory or hypothesis based survey research can be applied. De Vaus (1991:1) backs this view by suggesting that 'descriptive research is fundamental to the research enterprise and it has added immeasurably to our knowledge of the shape and nature of our society'. Thus as a first step in theory building, we sought to generate a foundation of empirically grounded evidence on contextual information needs and information seeking behaviours of SME managers with the objective of broadening our understanding of executive information behaviour from an under-appreciated context.

Also, this study, in contrast with many mainstream user studies, focuses on a single industry, the manufacturing industry, which is a high-profile constituent part of the country's industrial landscape. This distinction is a crucial one, and is informed by empirical evidence (Dess and Beard 1984). A salient limitation that pervades some extant studies investigating phenomena in firms that inhabit different industries is the tendency to disregard the inherent heterogeneity of the business environments in which organisations operate and managers make strategic decisions. For example, this shortcoming could, in concrete terms, manifest itself when researchers investigating firms from the microcomputer and forest products industries, treat them as if they faced a homogeneous environment and similar strategic problems. The former industry, also called "high-velocity" industry (Bourgeois and Eisenhardt, 1988), is characterised by an extreme rate of change, so that information is often of questionable accuracy and obsolete, whereas the latter is relatively stable. As a result, the findings could be prone to industry confound. In other words, the specific industry-effects peculiar to each industry could cloud the overall results thereby giving us an inflated or coloured picture of reality, because hostile environments tend to generate more demand for information. Following the recommendation by Dess and Beard (1984), we focussed on a single industry (non-diversified firms) to control for possible extraneous variations found in multiple industries. Another consideration was the preponderance of small firms in the manufacturing sector owing to its history and status as a vehicle of economic diversification (engine of growth) in Botswana's economy. Further, with substantial incentives and financial schemes targeting this industry, greater environmental changes and competitive pressures have thus been generated, thereby making the industry an ideal one in which to investigate information behaviour of managers.

Finally, our study employed two forms of triangulation: methodological and interdisciplinary. On the methodological front, triangulation research design involved the use of both quantitative and qualitative research methods. The quantitative research method was an exploratory postal survey (*n=400*) of Botswana's manufacturing firms in eight industrial classifications. The survey was used to obtain data (evidence) on broad patterns of the information behaviour of SME managers. The qualitative research, on the other hand, was an explanatory case-based research, consisting of follow-up face-to-face interviews, which incorporated the critical incident technique of Flanagan (1954). A convenience sample (*n=9*) of SME managers drawn from each sampled sector provided rich descriptive data about their information needs and information seeking behaviour-in-context, on which case studies were then built. Methodology is a primary concern for researchers in ISIC studies (Dervin, 1999) and recently the importance of applying multiple methods in this field of information seeking has been emphasised by Fidel (1993) and Vakkari (1997). Reinforcing this point, Pettigrew (1999: 808) notes that 'context studies support the need for open-ended methodologies and special instruments such as Dervin's (1992) time-line interview technique and Flanagan's (1954) critical incident technique'.

Interdisciplinary triangulation, as described by Janesick (1994), has the main virtue of enriching and broadening our understanding of the substance under review. Defined simply as using other literatures and theoretical concepts from other disciplines (Janesick, 1994:215), interdisciplinary triangulation, also referred to as multi-disciplinarity by Hale (1986), has long been recognised as useful for theoretical insights into traditional user studies (Hale, 1986; Hewins, 1990), and more recently in ISIC studies (Wilson, 1997; Sonnenwald, 1999). To this end, our research draws extensively on a wide range of the rich heritage of literatures from related comparative disciplines: communication studies, management, entrepreneurship, (business management), management information systems, and organisational behaviour. For example, we borrowed the "open systems" approach from organisational theory to inform our understanding of the firm's environment. The environmental perspective, as it is also called, is particularly relevant as it explicitly connects the firm with the external environment. This connection, while very important in providing novel insights, is rarely made in mainstream user studies. By invoking different disciplinary orientations, we break somewhat with mainstream information behaviour research that has heavily focused on a single perspective. Also, the literature from related fields provides us with a strong and broad baseline for understanding the information behaviour of managers.

1.4 Contributions of the research

The field of user studies boasts an admirable four-decade history during which it has been a fertile ground for researchers seeking to better understand information behaviours of various groups of users. Since 1963, many empirical studies including some notable classics have been conducted (Menzel, 1966; Paisley, 1968; and Lipetz, 1970). However, although the impressive contributions of these studies are self-evident in the literature, few studies focussed on SMEs and none are known to concentrate on a developing country's geographic and social context. Consequently, we know very little about the information needs and information seeking patterns of SME managers in these contexts. Dervin (1997) expresses this point passionately, writing that:

> There are many contexts still to be explored in sufficient depths for us to achieve a thorough understanding of their significance and while we continue to explore these specific contexts we add to our knowledge holistically. Context helps us both to understand that which is situation-specific and those aspects of information seeking and use that represent general characteristics of behaviour (Dervin, 1997:23).

By concentrating on a somewhat marginalised group in a different context, this study extends the existing empirical literature on information seeking in context studies. Specifically, the study provides (1) an illuminative picture of situational information needs and information seeking behaviours of managers from a developing country, thus enriching and expanding the empirical literature with a grounded perspective of executive information behaviour in this context; (2) a body of data for the development of theoretical models of information needs and information seeking patterns of SME managers. Taylor (1991) specifically calls for descriptions of information and situation-specific studies. 'It is from these studies that we can gradually build up a body of theories and testable hypotheses about information use environments' (Taylor, 1991: 225). Similarly, Kuhlthau (1999: 18) complements and reinforces this notion by suggesting that:

> "The patterns and concepts emerging from within contexts are important for building theoretical frameworks for information science" (Taylor, 1991: 225).

On a practical level, the results of this study will provide evidence-based data to LIS professionals intent upon designing and delivering appropriate information systems. An understanding of the information behaviours and information perceptions of managers is fundamental to an attempt to construct a picture of an organisation's information needs. In addition, the SME community and its decision takers will also find the results useful. The study provides a valuable foundational data set on the information behaviour of SME managers that can be used as a basis for policies or programmes tailored for SMEs.

Furthermore, responding to several calls for methodological plurality, (Hale, 1986; Rohde, 1986; Wilson, 1981, 1994; Hewins, 1990), our study adopted a multi-method design (methodological triangulation) embracing both qualitative and quantitative methods. From a methodological standpoint, this research contributes to the literature of information needs and seeking behaviour, by demonstrating the power of using two methods to address the same research questions, and using different data sets. Few studies have employed this approach on SME studies of information behaviour. While each of the methods has advantages and disadvantages, the convergence of findings from both methods suggests that our results may be more plausible than those obtained from either method (Brewer and Hunter, 1989).

Finally, this study makes an important theoretical contribution via interdisciplinary triangulation (Janesick, 1994). Departing from the vast majority of mainstream user studies and some ISIC studies, which tend to propagate a unitary and static perspective of information behaviour, this study adopted a multi-perspective approach by invoking theoretical insights from cognate disciplines. The approach adopted offers a unique and insightful lens through which we can understand executive information needs and information seeking behaviour in contexts. Few studies have integrated parallel and complementary streams of research (e.g. competitor intelligence stream exemplified by Porter (1980) and Boyd and Fulk (1996) among others, and the environmental scanning and organisational theory streams) on managerial information behaviour. To illustrate this point, by invoking the environmental perspective from organisational theory, we see the environment not only as the 'totality of the physical and social factors that are taken directly into consideration in decision making behaviour of individuals in the organisations' (Duncan, 1972), but also as a 'source of information, continually creating signals that organisations should attend' (Dill, 1962; Weick, 1979). In other words, we argue that a singular reliance on a single perspective, or excluding the environmental perspective, in studying executive information behaviour in unstable environments does not offer a complete picture because SMEs do not enjoy the luxury of operating in stable environments.

In summary, this research contributes to the literature by *empirically* addressing a lacuna in context studies of SMEs, *theoretically* by arguing for the adoption of multi-perspective approaches instead of relying on mono-perspectives, which tend to yield fractionated views of phenomena probed, and *methodologically* employing both survey and interview methods to obtain convergent results.

1.5 Structure of the thesis

This thesis consists of eight main chapters. Chapter one presents the introduction and rationale for the research. In chapter two both conceptual and empirical literatures on information needs, and information seeking behaviour research are discussed in detail. Chapter three describes the geographical, social, and economic characteristics of the Botswana setting. Data collection methods and conduct of the study are the subject of chapter four, wherein discussion centres, among other issues, on the main methods used in gathering data in managerial information research.

In chapter five, a presentation of questionnaire data is made, and this is followed by related presentation of interview data, in chapter six. The penultimate chapter seven is devoted to a discussion that synthesises data from questionnaires, interviews, and extant empirical research. Finally, the thesis ends with a brief chapter eight that presents summary, conclusions, limitations, and recommendations.

Chapter 2 - Literature Review

2.0 Introduction

In the preceding chapter, the rationale, objectives, research questions, nature of study, contributions and structure of the theses have been introduced. This chapter aims at providing a detailed review of both conceptual and empirical literatures germane to this research. The objective of this review is fourfold: (1) to provide a robust theoretical grounding for the study; (2) to position the study in its related milieu; (3) to identify the main issues that have been studied; and (4) to expose the key findings of previous studies and reveal salient gaps in extant literature. Given the size and diversity of the literature, a comprehensive review is beyond the scope of this chapter. Instead, our review is purposefully selective, integrated and interdisciplinary. Two reasons explain this approach. First, the subject of information needs and information seeking behaviours of managers has, in a general sense, been studied by a number of disparate comparative disciplines (e.g., business administration, management, management information systems (MIS), communication studies, organisational behaviour). These disciplines have in the process generated distinguished traditions, streams of research and literatures and this therefore dictates that we trace these literatures not only for their useful insights but also to provide a strong baseline for understanding the information behaviours of managers. Second, contemporary thinking among library and information scholars in the subfield of information behaviour research strongly favours the integration of interdisciplinary approaches (Wilson, 1981, 1994, 1996, 1997, 1999; Hale, 1986; Hewins, 1990; Fidel, 1993; Savolainen, 1993; Vakkari, 1996; Westbrook, 1993; Dervin, 1997; Kuhlthau, 1999). At the heart of their reasoning is the rationale that we need to appreciate the links across disciplinary perspectives so as to take advantage of ideas produced in other areas rather than simply rediscover what is known already.

This chapter is divided into two major parts. The first part comprising sections 2.1 through 2.2.3.3 deals with conceptual literatures, while the second part, consisting of sections 2.3. to 2.3.5 concentrates on empirical studies. We conclude the chapter with a synthetic summary.

2.1 Conceptual models in Information behaviour research

Wilson (1999:250) defines a conceptual model as a 'framework for thinking about a problem and may evolve into a statement of relationships among theoretical propositions'. That is, it attempts to describe and capture the core elements of the phenomenon being probed. For example, an attempt could be made to describe information seeking (abstract phenomenon) in the form of diagrams with a view to concretise it.

Information needs and information seeking behaviour research is part of studies of users, use and uses that form one of the most extensive and amorphous areas of research in LIS (Rodhe, 1986). According to a leading authority on user studies (Wilson, 1981, 1994, 1999), research in information behaviour has occupied information scientists since before the term 'information science' was coined. Wilson (1999) further states that the origins of the latter date back to the Royal Society Scientific Information Conference of 1948, when a number of papers on the information behaviour of scientists and technologists were presented. Although the term information behaviour was not used in the papers, which were generally about document and library use, the origins were evident. This was seven years before Chris Hanson of Aslib coined the term 'information science' and ten years before the establishment of the Institute of Information Scientists in the UK, the first professional body devoted to the field (Wilson, 1999: 250).

Over the intervening decades since the Royal Society Conference, well over 1500 papers, articles and research reports have been produced on user needs, information needs, and information seeking behaviour (see, for example, the eleven comprehensive reviews published by the *Annual Review of Information Science and Technology*: Menzel, 1966; Herner and Herner, 1967; Paisley, 1968; Lipetz, 1970; Crane, 1971; Lin and Garvey, 1972; Martyn, 1974; Crawford, 1978; Dervin and Nilan, 1986; Rhode, 1986; Hewins, 1990). Throughout the period, the one singular constant complaint of some critics has been that researchers have not built upon prior research in such a way as to cumulate into a significant body of theory and empirical findings that may serve as a starting point for further research (Menzel, 1966; Rhode, 1986; Westbrook, 1993; Gorman, 1995).

A number of reasons have been proffered for this state of affairs. First, in the then dominant positivist tradition, quantitative research methods were adopted that were inappropriate for the study of human behaviour (Wilson, 1999). Many things were counted, from the number of visits to libraries, to the number of personal subscriptions to journals and the number of items cited in papers. However, very little of this counting revealed insights of value to the development of theory or indeed, practice. Second, researchers in the field of information science have tended to ignore allied work in related areas that might offer more robust theoretical models on human information behaviour (Wilson, 1997). Third, it is only in the last fifteen to twenty years that general models of information behaviour have begun to emerge, and to attract the attention of researchers.

The situation is now changing. Notwithstanding persistent methodological shortcomings outlined by Sandstrom and Sandstrom (1995) and Wang (1999), the general adoption of qualitative methods since the early 1970s has resulted in work that is in the wider tradition of the enquiry into human behaviour and which therefore, is more likely to find theories and models in the social sciences that can be applied to the study of information behaviour (Wilson, 1999). Also, at the same time, models and theories proposed by certain researchers (e.g. Tom Wilson, Brenda Dervin, Carol Kuhlthau, Nicholas Belkin, and David Ellis) have gained strength as other scholars have adopted them as the basis for further research.

Overall, as shown above, there is at present no grand theory or theoretical paradigm in the literature from the library and information science research community to singly predict the act of information seeking or explain the motivation surrounding information needs and information seeking behaviours. There has been, however, the development of a number of conceptual frameworks that attempt to explain information seeking behaviours and information needs. For the purposes of this investigation, we chose to build on the ideas and conceptual approaches of Dervin (Dervin, 1983; 1992), Ellis (Ellis, 1989; 1993), Kuhlthau (Kuhlthau (1991; 1994) Belkin (Belkin, 1978; 1980; 1982), Taylor (Taylor, 1986; 1991), Katzer and Fletcher (Katzer and Fletcher, 1992) and Wilson (Wilson, 1981; 1996; 1999). Also, and consistent with our interdisciplinary approach, we borrow from organisation theory the environmental perspective or the "open systems" approach, as it is sometimes called (Jain, 1984). We use ideas emanating from both sets of models as the basis of our approach to the description and characterisation of information needs and information seeking behaviours of managers. In our view, the models that we invoke provide us, as we shall see, with the total managerial information environment. That is, library and information science models give us the constructivist perspective of the 'Alternative' paradigm while the organisation theory injects the often overlooked but vital environment or context in which information needs episodes occur. Further, both models also confer upon us a rich array of useful interdisciplinary concepts. This section describes each of the models above. However, we precede our discussion with an examination of the 'Alternative' paradigm in order to set the context in which these models should be seen.

2.1.1 The Alternative paradigm

In order to present an accurate account of the genesis of the sense-making approach, it is necessary first to describe the "Alternative" paradigm that is almost synonymous with the sense-making model itself. Since 1966, the prestigious *Annual Review of Information Science and Technology* (ARIST) has provided eleven comprehensive reviews of literature on information needs and uses. In ten of these reviews, (1966-1978), a concern for conceptual impoverishment of the information needs and uses literature has run through past *ARIST* chapters like a "thin but obvious thread of many colours" (Dervin and Nilan, 1986). This concern has manifested itself as calls to (1) to take advantage of theory from social sciences (Menzel, 1966); (2) to develop theories and conceptual frameworks (Paisley, 1968; Crane, 1971; Lin and Garvey, 1972; Crawford, 1978); and (3) to improve the predictive value of theory (Lipetz, 1970). The quotations below express the strongest statements from prior *ARIST* chapters:

> there is a growing realization of the lack of and a need for conceptual framework within which the amount of data... can be meaningfully integrated (Lin and Garvey, 1972:6).

> Information is a human asset that can be exploited for the improvement of the human condition. In order to exploit this resource, fully, a change in the attitudes of the whole (i.e. the information science community) of of the scale of a social revolution is required (Martyn, 1974:21).

> The predictive value of theory in this field is still very poor. But it seems clear that at least for the next few years, the prevailing path to information system development will continue to be through only enlightened trail and error (Lipetz, 1970: 26).

Aside from explicit calls for conceptual frameworks, there was also tension in the literature (Dervin and Nilan, 1986). Specifically, a number of detailed critical essays emerged calling for fundamental reassessments of what information needs and uses research was all about. The essays led by Belkin (1978), Belkin *et al.* (1982), Dervin (1983), Wersig and Windel (1985) and Wilson (1981, 1984) addressed in particular a concern for conceptualisation.

Partly in response to these criticisms and several other factors, research in user studies began to shift, resulting in clearly definable new characteristics which were aptly captured by Dervin and Nilan (1986) in their widely cited review article. In short, these developments ushered in the 'Alternative' paradigm. According to Dervin and Nilan, the portrait of the new or 'Alternative' paradigm is as follows:

In contrast to the 'Traditional' paradigm, the 'Alternative' paradigm views information as something constructed by human beings. Users are seen as beings that are constantly constructing, as beings that are free (within the constraints of the system) to create from the system whatever they choose (Dervin, 1992). In addition, the 'Alternative' paradigm focuses on how people construct sense, searching for universal dimensions of sense-making. Here, the thrust is on understanding information use in particular situations and concern is with 'what leads up to and what follows intersections with systems". In essence, the user is the prime focus and the system is examined only in so far as it is seen by the user. Finally, a study conducted within the 'Alternative' paradigm context asks many "how questions' (e.g. how do people define needs in different situations, how do they present these needs to the system) (Dervin and Nilan, 1986: 16). Put differently, it asks construction and user-oriented questions.

2.1.2 The sense-making approach

The preceding section has briefly sketched the context that led to the emergence of the 'alternative' paradigm. In this section, we seek to examine the

Sense-making approach; one of the most influential models currently being used in information needs research.

The development of sense-making theory is very closely associated with the research of Brenda Dervin since the early seventies. The theory, often identified with Dervin, has its strongest roots in American Communication Research (Savolainen, 1993). It has also, however, stimulated discussions within other disciplines (e.g. LIS, especially in the subfield of information needs and use).

Sense-making theory provides a set of research examples in the area of library and information science (i.e., some 40 empirical case studies with a variety of populations and organisations, (Dervin, 1992). Dervin and her colleagues have studied, for example, the information needs of Californians to elaborate ways in which libraries could help with these needs. The information needs were investigated by asking people to indicate what questions they had in the most recent troublesome situation, what strategies they used to get answers, what kind of help, and the answers helped. In another of the studies, ways were sought to entice infrequent library users into a public library. Accordingly, the sense-making project focused on users of the audio-visual services and asked them what happened that brought them to the library, what they obtained there, and how the video-tapes they borrowed helped them in everyday life. The results of library studies have been instrumental in the organisation of training workshops for librarians; in addition, the results of the user-centred studies have been utilised in library services redesign (Savolainen, 1993:15). We also find numerous studies of information seeking and use conducted in non-library contexts, such as everyday life, education and healthcare. These studies focus on various groups of people, for example, preschool children, doctoral students, immigrants, blood donors and cancer patients, to name a few.

Sense-making theory can be characterised as a piece of programmatic research, which focuses on the development of alternative approaches to the study of human use information and information systems. The theory's philosophical foundations rest on constructivist assumptions, and it has absorbed elements from several conceptions and theories in various disciplines. Most of these contributions stress the importance of the individual actor, adopting a critical stance towards objectivism and positivism. Dervin acknowledges her debt to a number of scholars; in particular Richard Carter and Jerome Bruner (Dervin, 1983; Dervin and Nilan 1986).

In LIS research, Dervin reviews favourably among others, the user-centred contributions of N.J Belkin and Robert S. Taylor (Savolainen, 1993).

Sense-making consists of a set of conceptual and theoretical premises and a set of methodologies for assessing how people make sense of their world and how they use information and other resources in the process (Dervin, 1983; 1992; Dervin and Nilan, 1986; Savolainen, 1993). According to Dervin and Nilan (1986), the sense-making approach is one of the approaches in the field of communication that implements aspects of the 'Alternative' paradigm for studying communication behaviour, and is the only one of these approaches that has been applied to library and information science

The key intent of the approach is to yield data that are directly useful for information and communication practice. In particular, it rests heavily on the posited *discontinuity condition* (discussed later) as presenting a mandate for humans to take steps to construct sense in constantly changing life situations. In this way, Dervin emphasises the mandate for step taking as an 'organising focus for conceptualising' (Dervin and Nilan, 1986: 21). Dervin posits an information need situation as one in which the individuals' internal sense has 'run out' and the person must "create new sense". The sense-making approach is a three-part model that stresses the "essences" of information-need, which is a sense-making situation. The model is also known variously as 'Situation-Gap-Use'. The sense-maker is stopped in a situation. Movement is prevented by some gap (operationalised for information need situations as a question or question set). The Sense-maker is seen as making some kind of use of whatever bridge is built across the 'gap' the user faces (Dervin and Nilan, 1986).

For the model to be actualized, the respondent describes movements when they were stopped, how they saw themselves stopped, what questions, they had in mind (i.e. what cognitive 'gaps' they faced), what strategies they found useful for answering these questions (i.e. building bridges across the 'gaps') and how they used the cognitive bridges once they built them (i.e. how information helps) Dervin and Nilan, 1986:21).

'Gaps' are operationalised as questions that can be coded into categories, tapping what are considered to be some universal elements of the ideas humans need to guide their movements. Questions can be coded into attempts to bridge gaps relating to the timing and location of events, understanding causes, projecting outcomes and identifying characteristics of self, others, events and objects.

Likewise, 'uses', also called 'helps', have been conceptualised as the ways in which people put answers to questions to work. Uses have been coded into: got picture, ideas, understanding, found direction; gained skills, got started or kept going, got connected to others, got support/reassurance, got rest/ relaxation, got happiness/ pleasure, and reached goal.

According to Dervin (1992), the assumption of a *discontinuity condition* lies at the heart of sense-making's philosophical foundations. This assumption proposes that discontinuity is a fundamental aspect of reality. It is assumed that 'there are discontinuities in all existence, between entities (living or otherwise), between times and between spaces'. For example, the discontinuity condition exists between human one at time one and human two at time one. In essence, the discontinuity condition is an assumed constant of nature generally and the human condition specifically. As such, it should be invoked in the study of information behaviour (Dervin, 1992: 62). The following example clarifies this point. At a specific moment in time-space, an individual who defines herself/himself as facing a 'gap' of a particular kind may use communicating tactics of a particular kind. In a different moment, facing a different 'gap', she/he may use a different tactic. She/he may in fact be very rigid, but the rigidity may be of the kind, which says given this 'gap, this is the tactic. Or the individual may be very flexible or entirely capricious. The essential point though is that by focusing on the 'gap-defining' and 'gap-bridging', we are able to examine human flexibilities and rigidities and allow the possibility that both are amenable to systematic analysis.

Sense-making studies have their earliest roots in a genre called 'everyday citizen information need studies'. The first such study was completed in 1973 by Warner *et al.* (1973; cited in Dervin and Nilan, 1986: 23) and described the kinds of everyday need situations of citizens (e.g. housing, family, employment and welfare), the sources used by citizens, and success in 'situation-facing'. Other examples include studies by Chen and her colleagues (Chen, *et al.*, 1976; quoted in Dervin and Nilan, 1986: 24). In these studies, the information need is a topically defined situation (e.g. housing), and the remaining emphasis is placed on source use and on library use in particular. Overall, the key contribution of these studies is that they go outside the bounds of the system intersection to assess need situations.

To sum up, the sense-making model represents a revolutionary development in information needs research as it wrestles with the quest of better understanding the elusive user. The approach is driven by the 'Alternative' paradigmatic assumptions. It is focussed on holistic process of situationality and cognition. It subscribes to non-objective information assumptions and assumes that there are systematic fundamental underlying dimensions to what was considered 'chaotic individuality'. It posits human beings as actively constructing rather than passively processing information and points to different ways of assessing user needs. Above all, as a result of its attributes, many researchers find that it offers a promising roadmap toward productive information behaviour research.

For the study reported here, the sense-making theory has several useful implications: (1) by debunking the notion of constancy and highlighting the assumption discontinuity, sense-making draws our attention to the need for context-specific definitions of information; (2) it facilitates the framing of research questions that are user-centred, i.e., construction questions; (3) it brings to the fore the need to examine users in specific situations or contexts because as Dervin (1992:69) notes, 'the individual is situated at cultural and historical moments in time/space and that culture, history and institutions define much of the world in which the individual lives'; (4) it calls for the integration of qualitative and quantitative methods; the two are not seen as apposite but complementary; and (5) exposes some of the limitations of the 'Traditional' paradigm. What follows in the next section is a discussion of the information seeking strategies model (ISS) by David Ellis and his colleagues.

2.1.3 Ellis's model

First articulated in 1989, David Ellis's model is the product of the doctoral research that he completed at the University of Sheffield (Ellis, 1989). Also, the model belongs to the constructive paradigm that pervades much of post-1986 user studies research. In this model, Ellis (1989), employing the widely cited Glaser and Strauss (1967) grounded theory approach, derived six generic characteristics of the information seeking patterns of social scientists: (1) starting; (2) chaining; (3) browsing; (4) differentiating; (5) monitoring; and (6) extracting. This work was extended to physicists and chemists in studies that found that the original model fits behaviour in the fields with very little modification, the principal change being the addition of the categories (7) verifying and (8) ending (Ellis, 1989, Ellis, Cox and

Hall, 1993). The features, which constitute the heart of the model, are briefly defined below:

- Starting: the means employed by the user to commence seeking information, for example, asking some knowledgeable colleague.
- Chaining: following footnotes and citations in known materials or forward chaining from known items through citation indexes.
- Browsing: semi directed or semi structured searching (Ellis, 1989:187).
- Differentiating: using known differences in information sources as a way of filtering the amount of information obtained.
- Monitoring: keeping up-to-date or current awareness searching.
- Extracting: selectively identifying relevant material in an information source.
- Verifying: checking the accuracy of the information.
- Ending: which may be defined as tying up loose ends through a final search.

Ellis (1989) notes that the detailed interrelations or interactions of the features of any information seeking pattern will depend on the unique circumstances of the information seeking activities of the person concerned at that particular point (Ellis, 1989: 178). This point is important, as it seems to suggest that contextual factors do play a part in determining the information seeking patterns.

The key strength of Ellis's model is not only that it has generated important generic information seeking patterns comparable to those found in studies by Kuhlthau (1991), Palmer (1991) and Westbrook (1993) but that it is based on empirical evidence, having been tested in several subsequent studies and most recently, in the context of an engineering company (Ellis and Haughn, 1997). In this vein, the general behavioural model can be considered quite robust in relation to the information seeking patterns of scientists, engineers and social scientists in both academic and industrial research environments over a period of time, which has seen accelerating changes in the information environment itself.

2.1.4 Kuhlthau's model of stages of information seeking (ISP)

Kuhlthau's (1991, 1994) model of six stages of information searching is one of the prominent approaches of the few human information behaviour models that seem relevant to our enquiry. Like the sense-making theory, Kuhlthau's six stages model belongs to the user-centred paradigm as articulated by Dervin and Nilan (1986). The heart of the model is the notion that information searching can be viewed as a 'dynamic, constructive and complex' process comprising six stages (discussed later). Developed against the backdrop of the bibliographic paradigm, Kuhlthau's model draws heavily on the literature describing the constructive process (Bruner, 1986; Dewey, 1933; Kelly, 1933; cited in Kuhlthau, 1994: 58). Running through the theory of construction are two basic themes. One is that individuals construct their own personal worlds and the other is that construction involves the total person, incorporating thinking, feeling and acting in a dynamic process of learning. The constructive process is not a comfortable, smooth transition but rather an 'odyssey of unsettling and sometimes threatening experiences' (Kuhlthau, 1994: 58).

The personal construct theory propounded by Kelly (1963; cited in Kuhlthau, 1994: 57) identifies common patterns in construction. He describes a constructive process as evolving through a series of phases that involve the emotions as well as the intellect at the first encounter with a new experience or idea. The typical one is confused and anxious and this state of uncertainty increases until the person reaches a threshold of choice where the quest of finding meaning is either abandoned or a hypothesis is formed that moves the process along to confirm or reject the new construct (Bannister, 1977; cited from Kuhlthau, 1994). This view of construction provides an anchor or frame of reference in the six stages of Kuhlthau (1991).

As mentioned earlier, the model consists of six stages: Initiation, Selection, Exploration, Formulation, Collection and Preparation. In the first stage is the commencement of the search process. If we take the example of a student assignment, it begins with announcement of the research assignment, which frequently causes students to express feelings of uncertainty and apprehension. Their thoughts centre on completing the assignment and comprehending their task. The second stage of the search process is characterised by research topic selection. Students frequently feel uncertain until they have made their choices and then express a brief elation after their selection (Kuhlthau, 1991). Their thoughts involve weighing possible topics against the criteria of personal interest, the assignment requirement and the time allocated for the project. Ranges of possible outcomes are predicted and the topics selected are those that show most potential for success. Among the actions that students undertake are: continuing to talk to other people, in particular their teacher, class mates, and family members; making preliminary search of the library; and using references sources to gain an overview of the topics under consideration (Kuhlthau, 1994).

In the third stage, students explore information to learn about their topics. According to Kuhlthau (1994), this stage is the most difficult. As the process of seeking information progresses, students are likely to become increasingly confused by the inconsistency and incompatibility they encounter among different sources and their own perceived notions. Feelings of doubt concerning their topics are prevalent as well as doubt in their ability to do the assignment well and in the library to have the information they need. The actions of the students involve locating information and evaluating relevance, reading to become informed and reflecting on new information. Taking notes should consist of listing interesting facts and ideas rather than copying long passages from texts. Tolerating uncertainty while intentionally seeking a focus is helpful for students during the exploration stage.

The fourth stage, when the students form a focus from information on the general topic, is the critical point in the search process according to the architect of the model. The focus is a personal perspective, an angle or hypothesis, which is developed from reading and reflecting on information gathered about a general topic. As a focus is formed, feelings shift from confusion and doubt to optimism and confidence. When students do not form a focus during the search process, they often experience difficulty throughout the remainder of the assignment that may result in writing blocks.

In the penultimate stage, students gather information on their focused view of the topic rather than on all aspects of the topic in general. Although they appreciate the considerable amount of work ahead at this point, they have more confidence, a sense direction, and frequently experience an increased interest in their projects (Kuhlthau, 1994: 60). The focus serves as an anchor or controlling idea, for gathering information and directing the searching. Kuhlthau maintains that students find it useful to seek information to define and extend their focused topics, taking detailed notes only on that which is germane to their chosen focus and not on the topic in general. It is in this stage that a comprehensive search of the library collection and use of a wide rage of sources is helpful.

In the final stage of preparation, students prepare to write. As closure nears, they draw the search process to an end, frequently noting diminishing relevance in the sources of information they encounter. They encounter feelings of relief as well as satisfaction and occasionally disappointment, depending on the success of their search. Strategies that students find helpful are returning to the library for a final search before beginning to write and to outline in order to organise their ideas for writing.

To conclude, the six stages model can be summarised in this way: the information search process is a user's constructive activity of finding meaning from information in order to extend his or her state of knowledge on a particular problem or topic. It incorporates a series of encounters with information within a space of time rather than a single reference incident. Uncertainty and anxiety are an integral part of the process particularly in the beginning stages. In this vein, information seeking is viewed as a process of "sense-making" in which an individual is forming a personal view-point (Dervin, 1983). The individual is actively engaged in finding meaning that fits with what she or he already knows, which is not necessarily the same answer for all, but sense-making with a personal frame of reference. Information from various sources is assimilated into what is already known through a series of choices. Formal organised sources from information systems interact with informal sources from everyday life experiences. In a nutshell, Kuhlthau's model captures cognitive affective, social and environmental factors related to a person's tasks, goals and intentions, which generate information seeking incidents.

While the model described above is not dedicated to managerial information, it is nonetheless relevant to our enquiry. It explains some of the generic stages that information seekers go through in pursuit of information regardless of their function. For example, the stance of the model is that information seeking is a complex, constructive and processual activity involving searching from a mosaic of sources which may contain irrelevant information. In our context, only the manager can make sense of what is useful and *vice versa*. Thus we find the model particularly instructive in revealing the process of information searching from a user perspective, and consistent with the core tenets of the 'Alternative' paradigm.

2.1.5 Belkin's Anomalous State-of-Knowledge (*ASK*)

Like previously discussed approaches, Belkin's (1980) Anomalous States-of-Knowledge (*ASK*) also incorporates most of the elements of the 'Alternative' paradigm. Developed by Belkin and his colleagues, (Belkin, *et al.* 1982), this approach begins with a situation in which someone with a problem needs help from some kind of information system. Belkin is quick to stress that the approach does not focus on information needs but on people in problematic situations, with views of the situation that are incomplete or limited in some way. In this vein, users are viewed as being in anomalous states-of- knowledge (abbreviated to *ASK*), in which it is difficult to speak of or even recognise what is wrong. Because they face gaps, lacks, uncertainties and incoherencies, they are seen as being unable to specify what is needed to resolve the anomalies.

Belkin and his colleagues have focussed attention on describing the nature of cognitive 'wrongness' that the user brings to the information system. This they do by utilising a free form of interviewing technique in which users are asked to describe the nature of problematic situations that led them to the search and what kinds of information they would like to have. In turn, the resultant descriptions are then analysed by computer to develop a statistical word occurrence and association portraits. What emerges is a graphic network of the frequency with which the participants used word roots and the extent to which different word roots occurred in the problem statements in close proximity to each other. The same statistical portraits are used to describe abstracts in the resultant database and when different strategies are employed to match the word association picture of users with those of the abstracts, studies have revealed that their situations matched their cognitive ideas about these situations. Similarly, abstractors have yielded pictures that mirror the matched images. Additionally, attempts have centred on the identification of different kinds of problematic situations (e.g. well-defined vs undefined topic, well-defined vs not defined problem) and to link them to different kinds of search strategies. All in all, researchers have concluded that their tests of the *ASK* approach have been promising. The main goal has been to generate means by which information systems can yield documents from searches that are based on images that are constructed in dialogue of the user's interest.

Although Belkin and his colleagues insist that they are not assessing information needs per se, the similarity of their approach to the aims of the values of the sense-making approach is self-evident. The model aims to isolate what users see as the fundamental dimension of situations that can be related to different kinds of cognitive strategies that users will use to determine what kinds of information will be useful.

In sum, in the Anomalous States-of-Knowledge approach, the user is seen to be in 'problematic situations', with incomplete views of situations, finding difficult to articulate what is wrong. Through interviews, word associations and analysis, an 'image' of the user's *ASK* is constructed and used to retrieve information that reflects the user's idea of interests. Finally, notwithstanding the fact that the *ASK* approach was developed for information retrieval in contrast to information seeking, we find the model useful as it underscores the salience of cognitive and situational factors that are important in determining information needs and information seeking patterns. Moreover, the stance of the approach is consistent with the "Alternative" paradigm guiding this research.

Finally, like the previous model, *ASK* has important implications for the study reported here: driven by the "Alternative" paradigm assumptions, *ASK* reinforces the need to focus on the user, i.e. to see the user as actively constructing rather than passively processing information. Also, it underscores the discontinuity assumption discussed earlier, thereby necessitating a context posture to user studies.

2.1.6 Taylor's Information Use Environments (IUEs)

Taylor's approach, the information use environments (IUEs) was greatly influenced by the work of many scholars, including Paisley (1980), Wilson (1981), Roberts (1982), Dervin (1983) and Wersig and Windel (1985). Like previously reviewed approaches, Taylor's model belongs to the 'User-centred' paradigm described earlier. After surveying the user study literature, Taylor (1991), in his seminal article proposed that research in information needs and uses should encompass not only the user and the uses of information but also the contexts within which users decide which information is useful. According to Taylor (1991), these contexts are called information use environments (IUEs), and they comprise the factors that affect the flow and use of information and determine the criteria by which information is valued. Information use environments can be divided into four components: (1) sets of people, (2) typical problems faced by those sets of people, (3) work settings, and (4) resolution of problems. Sets of people are defined in terms of their information behaviours and Taylor, based on intention interpretation, provides a useful typology of classes: the professions (e.g. lawyers, social workers, scientists, teachers, managers and physicians, etc), the entrepreneur (e.g. farmers, small businessmen, etc.), special interest groups (e.g. consumers, citizen groups, lobbyists, political action groups, ethnic, cultural groups) and special socioeconomic groups (e.g. information poor, the disabled, minorities, the elderly, etc.) (Taylor 1991: 222).

Each of the people has its own demographic (e.g. age, education) and non-demographic (e.g. media use, social networks, attitudes) characteristics that explain differences in information behaviour. Also, each set of people is concerned with a distinct class of problems, created by the requirements of its profession, occupation or life style. However, problems change all the time as new information is obtained and as the user changes position and perception. Information behaviour is influenced by four attributes of the work setting: (1) attitude toward information; (2) task domain; (3) information access; and (4) previous history and experience. According to Taylor (1991), each set of people has a different perception of what constitutes the resolution of a problem. Taylor also defines eight classes of information use. In the section that follows, we list these classes with a brief comment and a few typical questions that have been derived from a variety of sources that influenced Taylor himself:

1. *Enlightenment*: the desire for context information or ideas in order to make sense of a situation. What is history and experience of corporation *X* in making product *Y*, and how is this relevant to our intent to manufacture *Y*?
2. *Problem understanding*: more specific than enlightenment; better comprehension of particular problems. This has to do with answerable questions. Does the patient have an infection? Did the patient receive a blood transfusion? The why question requires interpretation of data and judgement as to their relevance.
3. *Instrumental*: finding out what to do and how to something; instructions; under certain conditions, instrumental information needs will define the need for other types of information.
4. *Factual*: the need for and consequent provision of precise data. There are two constraints to factual data: (a) the actual quality of the data, how well do they represent reality; and (b) related to the above, user perception of quality. We tend to accept data and information without qualification as valid because they

are printed, computer generated or in numerical form (Taylor, 1986: 64-65). What can cause abdominal pain and blisters on the skin?

5. *Confirmational*: the need to verify a piece of information; in a medical context, to seek a second opinion. In Dervin's (Dervin, 1983) terms: 'Got support, assurances'.
6. *Projective*: future oriented, but not related to political or personal situation (see 8 below); concerned with estimates and probabilities.
7. *Motivational*: has to do with personal involvement, of going on (or not going on). In Dervin's terms: 'got started, got motivated'.
8. *Personal* or *political*; has to do with relationships, status, reputation, personal fulfilment. In Dervin's terms: 'Got control; Things got calmer, easier; How will this decision affect my position with my boss' (Taylor, 1991: 230-231).

Finally, Taylor developed information use environments to illustrate different types of information needs. Taylor is of the belief that information use environments can become a generalisable model, a fruitful means of organising, describing and predicting the information behaviour of any given population in a variety of contexts (Taylor, 1991:251). Perhaps the recent flurry of interest in ISIC or INSU research is a testimony to that belief. Taylor concludes by making a passionate call for situation specific studies:

> We need descriptions of information use and effect in words of the user. The recent work of Dervin and Nilan (1986) has pointed the way. We need long term and situation specific studies such as those done by Coleman (1966), Allen (1977), Kotter (1982) and Blois (1984). We need studies of specific context, from which we can gradually build up a body of theories and testable hypotheses about particular information use environments. Such studies will of necessity be multidimensional, including such "unscientific" approaches as observation over long periods of time (Taylor, 1991:250).

Clearly, Taylor's approach is not only relevant to this enquiry but greatly influenced the way in which the entire study reported herein was conceived. In our view, the model accurately captures the information environment of SME managers and throws light on the types of problems encountered by managers as well as the categories of information likely to be deemed useful in resolving these problems. Most importantly, it highlights the need for context-specific studies and provides us with a pool of variables that we ought to consider in the design of our study. This quotation below aptly captures the above point:

> There is a strong need for more studies of differing populations working in varying contexts, and how individuals in those populations, describe in their own words how specific information is used and how its use (or non-use) affects their concerns. Taylor, 1991:231).

2.1.7 Katzer and Fletcher's Information Environment of Managers (IEM)

Our penultimate model comes from Jeffrey Katzer and Patricia Fletcher. Drawing on extensive multidisciplinary work in management, sociology, human computer interaction, psychology and organisational theory to name but a few, and on the robust foundation laid by Taylor (1986, 1991), Macmullin and Taylor (1984), Katzer and Fletcher (1992) introduce the concept of information environment for managers (IEMs). In a sense, their model is an application of Taylor's information use environments to a specific group of users, namely managers. Katzer and Fletcher's model is elaborate. As would be expected, it embraces almost all the elements found in Taylor's model, in Wersig and Windel (1985) and Dervin (1983): managerial roles, managerial activities, decision making, problem dimensions, the person and the setting (Katzer and Fletcher, 1992:248). Its end objective is to provide a framework for identifying the variables that affect the information behaviour of any population although it focuses on managers.

Essentially, the model argues for understanding the information behaviours of managers in terms of context-based dynamic cognitions. More specifically, the model suggests that the information environment of managers is defined by those factors that are related to managers as people who work in a setting, taking on various roles, and carrying out various activities. Further, the model posits that 'problematic situations' that managers face are affected by these factors and the relative importance of different 'problem dimensions'. The resultant implication for library and information researchers is that they must understand the user's information need in the context of the user's situation (Katzer and Fletcher, 1992: 249).

Evidently, Katzer and Fletcher's model is tailored for managers and echoes the paradigmatic assumption of the user-centred approach. Moreover, it does not only reveal the relevant disciplines that shed more light on the information environment of managers but also highlights the salient elements of the manager's information environment which library and information science research has hitherto overlooked but must now consider.

2.1.8 Wilson's model

Developed undoubtedly by one of the leading and influential authorities on information needs and information behaviour research, the Wilsonian model (Wilson, 1999) expands two previous models by the same author (Wilson, 1981; 1997), and synthesises important elements drawn from many existing library and information science models (e.g., Belkin, 1995; Ingwersen, 1996; Saracevic, 1996; Spink, 1997), together with models from related fields other than information science. Two factors prompted Wilson to develop this model: (1) inherent limitations in the previous two models (Wilson, 1981; 1997); and (2) a critical review which, found that existing models tended to ignore the exploration of other disciplines for productive research ideas. The Wilsonian model is an overarching or general framework comprising three "nested" conceptual areas. That is, various areas of research within the general field of information behaviour may be seen as a series of nested fields: (1) information behaviour may be defined as the more general field of investigation, with information seeking behaviour seen as a sub-set of the field, particularly concerned with the variety of methods people employ to discover and gain access to information resources, and information searching behaviour being defined as a sub-set of information seeking particularly concerned with the interaction between user and computer based information systems, of which textual data may be seen as one type (Wilson, 1999:263). Wilson further posits that the nested model could be extended to show that information behaviour is part of human communication behaviour because of the vast amount of information related research in various aspects of communication studies, such as consumer behaviour.

Overall, the Wilsonian model makes an important theoretic contribution by suggesting that this model could be used by researchers in the various fields to remind themselves that the study of a particular topic needs to be undertaken in the context of the surrounding field: thus, information searching should be explored with an understanding of information seeking and the latter with an understanding of information behaviour in general (Wilson, 1999:264). In this vein, Wilson offers a vision for the direction of future research. He gives a clear mandate for a multidisciplinary approach to research in information behaviour. Wilson's point is reminiscent of and concordant with Janesick's interdisciplinary perspective discussed earlier (Janesick, 1994), which is also echoed by a spectrum of scholars (Wilson, 1981; 1996; 1997; Hale, 1984; Hewins, 1990; Kuhlthau, 1999).

To conclude, Wilson's model outlined above is based on extant information science models and a critical review of literature from a variety of disciplinary traditions with streams of research on information behaviour. Thus it is synthetic as it subsumes many information behaviour characteristics albeit a general model that seeks to highlight the linkages between different research orientations simultaneously explaining information behaviour. More importantly, the model signals the challenges library and information science researchers in the information seeking domain need to consider in order to gain productive ideas from other fields. In making this contribution, the Wilsonian model ushers in a new era of multiple conceptual and multidisciplinary frameworks, a window of opportunity to systematise information behaviour research.

2.1.9 Summary of information behaviour models

The sections above have examined seven models by some of the leading scholars in information behaviour research (Table 2.1 summarises these models below). These models are deemed relevant to the study reported herein in that they unravel and elucidate the complexities of human information seeking. Taken together, the models vary in depth but all emphasise different aspects of information behaviour. We can make the following generalisations about them: (1) they all belong to the constructivist perspective that has underpinned much of user studies research since the publication of the landmark review by Dervin and Nilan (1986) and this is amply demonstrated by the overlapping concepts which run through the conceptual literature like a thread; (2) they reveal some generic characteristics of information seeking behaviour, for example, 'starting', 'browsing', 'extracting', etc.; (3) they identify a range of factors that determine the information seeking behaviours of users (e.g. context, discipline, work role, setting, time spent in the field and organisation). In doing so, they also pinpoint the complexity and process driven nature of information behaviour, and (4) they are complementary rather than competing in their desire to better understand information behaviour of users. In this vein, they are shifting the prevailing paradigm to a new direction.

After many years of decrying the lack of general theoretical frameworks, there is abundant evidence that information science research has now come to a stage where existing models could be used productively to give structure and order to a hitherto seemingly chaotic field (Auster and Choo, 1993). The work of Dervin (1983; 1992) and Dervin and Nilan (1986) provides the bedrock of the paradigm and together with that of Taylor (1991), Kuhlthau (1991, 1994), Dervin (1997; 1999) broaden the paradigm to introduce a range of additional elements: (1) the user as a cognitive person, (2) information seeking as a process extending over time and space, and (3) information-use contexts or information use environments as crucial determinants of the types of information needs and the usefulness of information. Their research pinpoints the multidimensionality of information needs and seeking and underline the centrality of context. That is, while user behaviour may exhibit infinite variety, some degree of order may be found by analysing the user's sense-making processes and information use contexts. In addition, the work of Taylor (1991) and Katzer and Fletcher (1992) appropriately identifies managers as a distinct set of users who have their own information behaviours, types of problems to be handled, work settings and ways of resolving problems. Further, synthetic work of Wilson (1999) not only signals a challenge for researchers to consider incorporating multidisciplinary approaches, but more importantly, presents a clear vision for the direction of future research for the field. Seen in a narrower view, these models thus provide this study with a roadmap or a framework that serves as a foundation for our understanding of the information behaviour of SME managers.

Table 2.1 Summary of models of information behaviour used in this study

Author and Date	Name of model	Key terms
Wilson, 1981; 1997; 1999	Nested or 'super' model	Cognitive and contextual factors Person-in-context, intervening variables, information behaviour, information searching, Information seeking.
Dervin 1983; 1992; 1996 Dervin & Nilan 1986	Sense-making or Situation-Gap-Use	Situation, gap, outcomes, bridge, problematic situation, context, uncertainty, situational conditions.
Belkin, 1978; 1980; Belkin *et al.* 1982	*ASK*	Gaps, lacks, situation, uncertainties, incoherences, problematic situations, cognitive wrongness, problem resolution
Kuhlthau, 1991; 1993; 1994	Information search process (ISP)	Uncertainty, equivocality, sense-making, constructive, process.
Ellis, 1989; Ellis *et al.* 1993; Elllis & Haugan, 1997	Information seeking strategies (ISS)	Features of information seeking, interrelated, circumstances.
Taylor, 1986; 1991	Information use environments (IUEs)	Information environment, context, information traits, problem dimensions, situationally- based.
Katzer & Fletcher, 1992	Information environments of managers (IEMs)	Problematic situations, problem dimensions, uncertainties, context, concerns, real-time situations, information environment

2.1.10 Implications of the models

Taken as a whole, these models have important implications for the study reported here. That is, in aggregate terms, they dictate that we fashion our study in a manner that is consistent with the ensuing broad user-centred paradigmatic assumptions. Specifically, we note four implications: milieu of the study, methodologic issues, multidisciplinarity, and conceptualisation of information. In the next section, we briefly discuss each of these implications.

1. *Milieu*: because of the proliferation of user or information needs studies over the past 5 decades or so, with overlapping objectives, it is important that this work be situated within its related genre. That is, while it is a user study, it was conceived more as an ISIC study. This distinction is not trivial. On the contrary, it enables the research results to be construed in their proper perspective.

2. *Methodological issues*: the choice of a suitable research method must be guided by the orientation of the study. As Dervin (1992: 46) rightly puts it: 'methodology is a residual of theoretic assumptions'. In essence, this simply suggests that we derive our methods from the theory that informs our study. To this end, a multimethod approach, embracing both qualitative and quantitative methods would be consistent with the paradigmatic assumptions (Dervin, 1992, 1996, 1999; Fidel, 1993; Savolainen, 1993; Vakarri, 1996; Pettigrew, 1999).

3. *Multidisciplinarity*: given the complexity of human information seeking (Rouse and Rouse, 1984), a multidisciplinary approach, tapping from cognate disciplines would appear to offer fruitful lines of enquiry. Thus for example, disciplines like management; business administration and organisation theory with parallel and complementary streams of research on information use in organisations would shed valuable light on this topic.

4. *Conceptualisation of information*: the models debunk the notion of information existing independently of the user, i.e. the 'objective view of information or information as a 'brick' (Dervin, 1992: 49). Instead, they espouse the view that the user constructs information. For the study reported herein, this translates into a need to offer an operational definition that is congruent with the net paradigmatic assumptions. In the section below, we attempt to provide a working definition of what constitutes information in the perspective of this study.

2.1.11 Definition of Information

Defining the concept 'information' has been a continuing and much-debated topic in LIS and it is increasingly apparent that there is no single definition of information that will work in every research setting since information takes different meanings in different contexts (Rohde, 1986; Pettigrew, 1999). Thus when operationalising 'information', researchers should consider the paradigm from which they are working and the setting in which they are studying information. For example, a user-centred paradigm would require a definition that is amenable to its paradigmatic assumptions. Here, we examine a range of perspectives to illustrate what is meant by information in the literature.

Information as a commodity/resource

Some disciplines view information as a thing or commodity that can be produced, purchased manipulated, controlled, passed along, traded and sold. Key advocates of this view include, Mintzberg, (1973); Reid, (1986); Czikonta, (1991); Kalseth, (1991); Katzer and Fletcher, (1992); Best, (1996); and Evans and Wurcester, (1997). Seen in this light, this conceptualisation of information is congruent with a model of sending information as message from sender to receiver. Also, an underlying assumption of this conceptualisation is that the recipient will interpret and understand the message in a way intended by the sender (McCreadie and Rice, 1999: 46).

Information as knowledge representation

According to McCreadie and Rice (1999), some researchers see information as a representation of or a pointer to knowledge. A classic example of this perspective is the tradition of scientific method and scholarly publication. Seen in this perspective, card catalogues or databases of citations to scientific documents illustrate an 'abstraction of a representation of knowledge, providing information about where or how to pursue a representation of information, such as in documents, books and periodicals'. Traditionally, this view of information has been predicated on 'the assumption that the printed document is the primary representation of knowledge' (McCreadie and Rice1999: 48). However, in recent years, there has been a rapid proliferation of alternatives to print, such representations of knowledge available on audiotapes, videodiscs, CD-ROM, Internet and other electronic media.

Information as part of the communication process

In some disciplines information is conceptualised as part of the human communication process, as part of human behaviour in the process of moving through space/time to make sense of the world (Atwood and Dervin, 1982; cited in Dervin and Nilan, 1986). In this view, meanings reside with people rather than in a word or data and knowledge is what users do with data rather than what data do to users. Information gathering and processing are not physical or cognitive activities separate from work, (that is, as preparation for accomplishing tasks), but inherent regular activities that constitute the very nature of what people in organisations do (Solomon, 1997).

Information as data in environment

Other disciplines see information more broadly, to embrace data in the environment, available for interaction with human information abilities. According to McCreadie and Rice (1999: 47), this category includes 'objects, artefacts, sound, smells, visual and tactile phenomenon, activities, events or the phenomena of nature'. Buckland (1990) notes that it is "easy to assume that all communication is intentiona". However, in practice, one is informed by perceptions of things that are communicated unintentionally. That is, neither the individual nor the data engage in communication. The discoveries one makes in the process of casual (non-goal directed) browsing (Chan and Rice, 1993) or the inferences another makes about an individual's character or performance based on observation of the individual's behaviour when exposed to view, particularly when the individual is unaware that of being observed serve as additional examples of unintentional communication available when one attends to information as data in the in environment. Taylor (1991) specifically uses the environmental approach in his concept of information use environments, which are intersections of (a) sets of people; (b) classes of problems; (c) work settings; and what constitutes problem resolution (see section 2.1.6 above). These environments are contexts for various kinds of information needs, with constraints on habitual patterns of and resources for accessing information. Katzer and Fletcher (1992) reinforce the Taylorian perspective by arguing that information environments involve people working in settings in various roles, doing various activities, experiencing different problem dimensions, applying context-based and dynamic cognitions. Clearly then, this view of information is conceived to be the most suitable for our study. Accordingly, we define information as data in the environment i.e. external intelligence or data pertaining to the six environmental sectors: competition, customer, economic, sociocultural, technological, and regulatory as in the Daft *et al.* (1988) study. Thus information is synonymous with business intelligence. The core rationale for adopting this definition is threefold. First, it fits in with the paradigmatic assumption that provides the theoretical pillar for our study. Second, it concretely captures the contextual exogenous issues that impact on the organisations that SME managers preside over, i.e., those factors that generate information needs or problems to be resolved. Finally, an adapted version of it has been used successfully in some prior studies, (e.g. Auster and Choo, 1994), and this not only bolsters the reliability of this research but also permits comparisons with related studies.

2.2 Organisational theory

Organisations are not insulated from the vagaries of their external environments. On the contrary, they are susceptible to the tremors occasioned by the high tempo environments of today. Recognising this, the link between organisations and their environments has been a fertile ground of research in organisational theory. Actually, the recent shift towards the "open systems perspective" of organisations has centred on the perceived role of the environment as the 'ultimate source of materials, energy and information, all of which are vital for the continuation of the system' (Scott, 1987). This section reviews selected literature pertaining to organisations and environments. The objective is twofold: (1) to shed light on the context within which information needs episodes occur, and (2) consistent with our interdisciplinary strategy, to obtain vital theoretical insights from related disciplines that have streams of research on managerial information acquisition.

2.2.1 Organisations and environments

Organisation theory views the external environment as a source of information, a pool of resources and a source of ecological variation (Aldrich, 1978). Dill (1958, 1962) was one of the first scholars to view the environment as a source of information. His key proposition was that the best way to analyse the environment is not to try to understand it as a collection of other systems and organisations but rather:

> To treat the environment as information that becomes available to the organisation or to which the organisation via search activity, may get access. It is not the supplier or the customer himself that counts, but the information that he makes accessible to the organisation being studied about the goals, the conditions under which he will enter into a contract or other aspect of his behaviour (Dill, 1962: 96).

According to Dill, changes, events and trends in the environment continually send "signals and messages", which organisations "detect and use" to adapt to new conditions. Another scholar, Arrow (1964) put forward a theory of information control in large organisations in which managers receive signals from the environment and other managers. Additionally, this theory posits that when decisions are based on these messages, further information is generated and transmitted, which in turn leads to new signals and decisions (Auster and Choo, 1993). The informational perspective of the organisation environment is like a thread, which runs through the works of many researchers including Burns and Stalker (1961), Cyert and March (1963), Galbraith, (1973), Lawrence and Lorsch (1967), Thompson (1967) and Weick (1979). In essence, the commonality element in this view is that 'uncertainty' is inherent in the environment, so that the basic task of management is to 'cope with this uncertainty by using information from the environment to maintain or change organisational structures and processes' (Auster and Choo, 1993: 282).

A related theoretical perspective, also variantly called the ecology school or dependency perspective, views the environment primarily as a source of resources on which the organisation depends. The extent of dependence differs according to three structural characteristics of the environment: (1) munificence (or perhaps the scarcity of resources); (2) concentration, the degree to which power in the environment is widely distributed; and (3) interconnectedness in the environment (or the number and pattern of links among organisations in the environment. According to the foremost proponents of this view, (Pfeffer and Salancik, 1978), because external entities exercise control over the resources needed by organisations, they have power over the organisation. Thus, an organisation can manage resource dependency by setting up coordinating links among interdependent organisations in its environment.

A third perspective views the environment as a source of ecological variation, that is, the environment differentially selects certain types of organisations for survival on the basis of the fit between organisational forms and environmental characteristics. Crucial here is the action of environmental selection in which the organisations are relatively passive and unable to determine their own fates. Principal architects of the ecological view include Hannan and Freeman (1977) and Aldrich (1978) who also go further to explain why certain forms of organisations survive and thrive while others languish and perish.

2.2.2 Organisations as information processing systems

Several important theories treat organisations as information-processing systems that perceive and interpret stimuli, store, retrieve and transmit information, generate judgement and solve problems (Choo, 1991, 1998). Because of the vast literature, for purposes of this study, we confine ourselves to only two instructive research orientations on organisational information processing (Choo, 1991, 1998). In the first orientation, organisations are seen as rational decision-making systems. However, the individual decision-makers have limitations on their cognitive abilities, a phenomenon also known as bounded rationality. The task of organisation design is thus to control the decision premises that guide decision-making behaviour. The organisation sets its goals, first, then searches for alternatives and selects actions that lead to the goal. Information is processed to reduce or avoid uncertainty associated with decision-making. The decision-making perspective was first developed by Herbert Simon, James March and Richard Cyert and became very influential in organisation theory (Simon, 1957; 1976; 1977), Cyert and March (1963), March and Simon (1958).

Cyert and March posit that a theory of organisational decision-making processes must consist of a theory of search and theory of choice. According to them, decision-makers are not automatically presented with problems to solve and alternative solutions. On the contrary, they must identify problems, search for solutions, and develop methods to generate and evaluate alternatives. Put differently, decision-makers must actively search for the information needed to make choices.

In the second orientation, organisations are seen as social, loosely coupled systems in which individual actors enact or create the environment to which the organisation then must adapt (Weick, 1979). Although organisations are still viewed as information processing systems, information is not for decision-making. Instead, it is to reduce the equivocality of the information about the organisation's external environment. Equivocality is defined as ambiguity, the existence of multiple and conflicting interpretations about the organisational situation (Auster and Choo, 1993). Managers as information processors receive information from the external environment.

To sum up, this section has reviewed the theoretical literature from the field of organisational behaviour. The select literature offers a richer theoretical insight into the position of organisations vis-à-vis their environments. On the one hand, we begin to view environments not as passive wrappings, but rather as active processes, which are invisible. On the other hand, we start to see contemporary organisations as constrained and enveloped by complex and dynamic environments where a variety of forces are simultaneously creating change, instability and turbulence. However, organisations are dependent on their environments for sustenance: markets, resources information and extraordinary opportunities. At the same, the turbulence or dramatic changes in the environment are a constant source of concern for managers as failure to interpret these changes may be a one-way ticket to extinction for many an organisation. Thus, managers must be vigilant in order to capture any warning signals and messages so as to align their organisations to their environments. Put differently, they must interpret equivocality in complex environments and initiate speedy strategic decisions. Thus the overall picture that emerges from our forays into the field of organisational theory gives us access to a much richer set of theoretic tools. Insights from organisation theory thus become available for enhancing our knowledge of SMEs as firmly embedded in their environments and for further stressing the importance of information.

The organisational perspective is clearly relevant for understanding the criticality of information needs and information seeking behaviours of managers and explicitly connects the value of information with the library and information science overarching perspective. In mainstream library science, information is generally perceived to be a valuable resource to an organisation as are labour, material, capital and financial resources (Reid, 1986; Best, 1996; Kalseth, 1991; Owens and Wilson, 1997). In addition, the challenges of globalisation are constantly accentuating this value. Although the environmental perspective provides a key contribution by shedding light on the intricate links between organisations and their environments, the vast majority of user studies focussing on organisations have tended to ignore it.

2.2.3 Managerial activities

The information needs of managers depend on the tasks that managers perform. Consequently, successful provision of information to managers requires an understanding of the tasks which managers perform in the organisation and the nature of their roles external to that organisation, because it is these factors that determine the need or otherwise for information (Butcher, 1995). For much of the first half of the last century, management work was dominated by the work of Henri Fayol. Fayol (1916) defined the management process as 'forecasting, planning, organising, and commanding, co-ordinating and controlling'. Another leading writer, Gulick, (cited from Mintzberg, 1973) used the acronym PODSCORB (planning, organising, directing, staffing, co-ordinating, reporting and budgeting) to describe the managerial tasks. However in the sixties other writers such as Stewart (1967) and Mintzberg (1973, 1975) were to demonstrate empirically that while the above tasks might be deemed to be the rightful tasks of managers few managers actually conformed to the conceptualisation. It is therefore appropriate to look into some detail at what empirical evidence suggests about managerial tasks before discussing the information needs of managers.

Rosemary Stewart undertook a major diary study into managerial work differences (Stewart, 1967). She studied 160 senior middle managers over a four-week period; with the aim of discovering similarities and differences in the way managers spent their time. Although she used the diary method, she differed from her predecessors in some significant way: she made almost no attempt to study work content. Her key finding was that managers' work was characterised by fragmentation; for example, managers spent time in informal discussions, committees, and with superiors. Also, using a technique called cluster analysis, Stewart delineated 5 basic job profiles: the emissaries, the writers, the discussers, the trouble-shooter and the committeeman.

Mintzberg (1973) also examined managers' work in his celebrated and path-breaking work that has been influential in its classification of managers' information roles. In contrast to Stewart's methodology of wide-ranging diary and survey, Mintzberg pioneered structured observation to conduct an in-depth study of activities of five chief executives in US companies. His analysis during a one-week survey period of each executive's mail and contact records, together with interviews, led him to his formulation of a theory of the manager's work characteristics and ten inter-linked working roles: three interpersonal (figurehead, liaison, and leader), three informational (monitor, disseminator and spokesperson) and four decisional (entrepreneur, disturbance handler, resource allocator and negotiator). He proposed a model of managerial use of information that includes information acquired from the external environment. In his conceptualisation of top managers as information processing systems, the manager's interpersonal roles provide access and exposure to information from a large number of external and internal sources. The manager in the informational role of monitor continually keeps an eye on the organisation and the business environment. Access to information combines with positional authority to empower the manager to perform four decisional roles. As entrepreneur, the manager initiates 'improvement projects' such as new lines of business or joint ventures that exploit an opportunity or solve a problem. As resource allocator, the manager controls the distribution of all forms of organisational resources, through for example budget allocation and setting of targets. As disturbance handler, the manager deals with unexpected but important events. Finally, as negotiator, the manager engages in major negotiations with other organisations or individuals. Overall, Mintzberg demonstrates that it is through the manager's interpersonal roles that he becomes a focal point for both internal and external information, building up his network of personal contacts to feed him with the current 'trigger' and 'verbal information' on which he depends. As monitor, 'the manager 'continually seeks and receives information from a variety of sources in order to develop a thorough understanding of the organisation in its environment' (Mintzberg, 1973:97).

Overall, Mintzberg's conceptualisation of managers' work has been corroborated by a plethora of studies that followed his seminal work and which used structured observation and other qualitative methods to study the manager in action. Among these studies, Kotter's classic empirical works are significant (Kotter, 1982a; 1982b). For purposes of this research project, Mintzberg's conceptualisation of managerial tasks provides a useful framework for understanding the managerial jobs that in turn determine managerial information needs. In essence, the framework underscores the point that management is an information-intensive job and managers are users of information. Previous research on information needs and information seeking behaviours, while effectively echoing the importance of information to managers, pays little attention to the jobs that managers do, which in turn determine the information needs of managers.

Although Mintzberg's work (1973) concerning the nature of management has been very influential and widely cited, it has attracted some criticism from scholars who point to some limitations: it does not report much detail of how managerial work impacts on the manager's need for information (Butcher, 1995). For such an explanation, Anthony's work published in 1965 and to which Mintzberg himself and other writers refer, is very instructive.

Anthony (1965) suggests that managerial activity can be very basically divided into three categories: (1) operational control activity; (2) activity associated with managerial and tactical control; and (3) strategic activity. In each of these activities, the manager, acting as a monitor, receives information which is used to detect changes identify problems, detect trends and develop a better understanding of the organisation and its environment. However, Gorry and Scott Morton (1971) demonstrate that each type of managerial activity requires an appropriately different type of information which comes from different sources and which is used in a different way. Therefore it is vitally important that we have a detailed explanation about each of the managerial activities since they have a direct bearing on the type of information that managers require.

2.2.3.1 Operational activity

According to Anthony (1965), operational activity is an activity that is usually associated with production, facilities, purchasing, sales or logistics. It is well defined and narrow in scope and tends to be largely physical; as a result the processes involved can be directly observed. For example, an operational activity in production may be the manufacture of a specific part for a machine. The managerial aspect of this, often referred to as operational control activity, is largely concerned with tasks rather than people. Anthony (1965) defined such operational control activity as the process of assuring that specific tasks are carried out 'effectively and efficiently'. Because little or no judgement needs to be exercised by managers responsible for the control of operational activities, the focus is largely on the execution of the task. The management of operational control activities requires information about the extent to which the tasks and goals have been achieved and resources used efficiently and effectively. As a result, the operational control process is monitored regularly and information is gathered at very frequent intervals, for instance, hourly and daily. Although such information is vital for the organisation, it is obtained wholly from internal sources.

2.2.3.2 Managerial control

In contrast to operational control activity, management control activity is concerned largely with getting things done through people. Anthony (1965) suggests that managerial control is the "process by which managers ensure that the resources are obtained and used effectively and efficiently in the accomplishment of the organisation's objectives". Anthony (1965) points out that management control can only take place within the context of objectives and policies that have been derived during the process of strategic planning and when clear criteria have been established by which the effectiveness and efficiency of the objectives have been set. The purpose of management control activity is to ensure efficient and effective performance of tasks. The information required is largely obtained from internal sources such as from summary reports of the results of operational process but some external information may be used.

2.2.3.3 Strategic activity

Anthony (1965) defines strategic activity as the process of deciding on the objectives of the organisation, on changes in these objectives, on the resources used to attain these objectives and on the policies that are to govern the acquisition, use and disposition of these resources.

Strategic activity involves an attempt to predict the future business environment and the organisation's place in it. As such, it entails the solution of problems, which are complex and non-routine (unlike other business activity, much of which is routine). It requires managers to think in creative ways. In contrast to other management activities, strategic activity requires much information, which is generated from sources largely external to the organisation, since what is required is information concerning activities, which are largely external to the organisation. For example, what competitors are doing or what products are being developed and introduced, the strengths and technological advances of the new products. Such information gathering about the external environment is referred to as environmental scanning (discussed later in section 2.3.1).

These three categories of management activity form an illustrative framework within which managerial information requirements should be understood for purposes of this research project. Seen in a broader perspective, the framework is consistent with the fundamental tenets of the user-centred paradigm of library and information research that strongly advocates that the information needs of any group should be studied within the information use context/work-context, (Taylor, 1991; Dervin and Nilan, 1986). Anthony's conceptualisation of management work clearly and forcefully demonstrates why and how managers need information and the kinds of information they need. Surprisingly and unfortunately, much of previous library and information science research on information needs and uses has always assumed, quite mistakenly, that there is a prior uniform/common conceptualisation of managerial work, and therefore the studies concentrated straight on information needs sources and seeking behaviours without setting out the conceptual map.

Taken together, the conceptualisation of managerial work proffered by Mintzberg (1973) and Anthony (1965) provide us with profound and broader understanding of the context and what managers actually do, that is, the scene in which the drama of various managerial activities takes place. In essence, they bring to the fore the significance of information across the mosaic of intertwined tasks. An important virtue of the works of Mintzberg (1973), Stewart (1967) and Kotter (1982a) is that they are based on empirical evidence. Overall, the resultant perspectives from management inject further invaluable insights and theoretic tools into our study.

2.3 Empirical literature

The previous sections have examined theoretical frameworks from information science research and organisation theory, which, if utilised in a complementary fashion, have the potential to provide a brighter lens through which to probe SME managers as information users. This part of the chapter now turns attention to empirically based studies that have scrutinised the information behaviour of managers in general. As mentioned earlier, our review does not aspire to be exhaustive nor comprehensive. On the contrary, it is selective because the literature is interdisciplinary and vast. We focus on those studies that shed light on managerial information behaviour, taking cognisance of the activities that managers engage in and the work environment as the setting (the information environment). Accordingly, our review is organised as follows: (1) environmental scanning studies; (2) managers as users of information and; (3) library and information science user studies.

2.3.1 Environmental scanning studies

Much of the research on managers' information behaviours from mainstream library and information science literature has largely overlooked a substantial body of empirical research from management on the field of environmental scanning except to a limited degree; as exemplified by the works of Auster and Choo (1993); Choo (1993, 1994, 1998) and others. However, the empirical research from environmental scanning is central to any study of managers as users of information for two reasons: first, environmental scanning itself is an information acquisition activity practised by managers (Choo, 1993, 1998); second, the field of environmental scanning boasts of a long tradition of empirical research from which information needs studies can draw very useful theoretical and methodological insights. For example, the information needs of managers and the sources of information that managers utilise as identified in both environmental scanning research and information needs studies display a striking similarity. In short, the two fields tackle substantially overlapping research questions, and consistent with the trend towards trans-disciplinary studies, we are impelled to examine the literatures from related fields, hence the review of environmental scanning research.

Aguilar (1967) is the first to study the use of external information in a corporate setting and is credited with introducing the concept of environmental scanning. Since his path-breaking study, environmental scanning has acquired increasing importance and interest by scholars of which Keegan (1967; 1974), Kefalas (1973), Kefalas and Schoderbek (1973), Hambrick (1982), Culnan (1983), Daft *et al.* (1988), Jain (1984), Lester and Waters (1989), Specht (1987); Smeltzer *et al.* (1988), Auster and Choo (1993, 1994) and Choo (1993, 1998) are among some very good examples.

Environmental scanning is defined as the 'search for information about events, trends and relationships in a company's outside environment, the knowledge of which would assist top management in its task of charting the company's future course of action' (Aguilar, 1967; Auster and Choo, 1993; Boyd and Fulk, 1996). Scanning involves searching for information about a specific question, as well as viewing information or being exposed to information, without there being a specific information need (Aguilar 1967). Further, scanning can be particularly important not only for monitoring broad trends and identifying new product-market opportunities but also for providing basic data, which allows executives to interpret their environment and assess strategic issues (Jackson and Dutton, 1988). The external environment of an organisation includes all outside factors that can affect the organisation's performance, even its survival (Choo, 1998).

Aguilar's work (1967) examines the information that managers obtain about the external environment, what sources they use and their methods of acquiring such information. The first phase of his research consisted of in-depth interviews with managers, mainly from the chemical industry. A total of 1337 managers from 41 firms participated in the survey. From this research, Aguilar was able to describe major uses of information needs (types) and sources of external information for managers and to draw up an analytical framework of modes and roles for environmental scanning. The second phase of Aguilar's work consisted of follow-up case studies, which related to interview findings and also led to some more general conclusions and propositions for the improvement of environmental scanning techniques.

Aguilar identified four scanning modes used for gaining information on the external environment. The two 'viewing' modes were either 'undirected' or 'conditioned' depending on whether a specific area of information had been identified for the manager who was keeping an eye on the environment. The two 'search' modes involve a more active approach to scanning and could either be 'informal' attempts to gain a specific piece of information or a 'formal search' conducted on a regular basis, for example in an R&D Department. While 'formal search' represents the ideal method, Aguilar recognised that this scanning mode was not practicable in every eventuality. Sets of rules were therefore formulated to determine the most appropriate scanning mode. These rules could either be 'issue-related' and dependent on the importance of the particular issue to the organisation, 'information related' depending on the availability or adequacy of data, or 'capacity related' depending on the time, resources and staff available within the organisation.

In his analysis of results, Aguilar draws an important distinction between strategic information and the more general information on the firm's environment. Among the areas of information, he found market tidings to be predominant for managers of all functions, with broader environmental issues of little importance. Personal contacts outside the company were the most widely sources of external information.

Keegan's research (1967, 1974) examined the scanning of the external environment for information relating to strategic issues in international operations. His prime objective was first to describe areas and sources of information, and the manner of information acquisition and then draw up a model of the scanning process. In a similar fashion to Aguilar, he concentrated on strategic information as opposed to control and his research was based on interviews with chief executives of companies. The sample was drawn from fifty executives at the headquarters of thirteen USA food and manufacturing companies operating internationally. Keegan also used the critical incident technique, asking executives to recall specific instances where external information had been used.

Consistent with Aguilar's research, market information emerged as the most important area for all executives, but in relation to issues of strategic importance, Keegan found a manager's function to be an important influence on the scanning process. As in Aguilar's study, personal sources were the preferred method of acquiring information. Keegan's conclusions were that managers relied more heavily on external informal sources than had been previously suggested, but that systematic methods of scanning information, whether computer-based or manual, played little part in the process of information acquisition where 'surveillance' of an area of interest was preferred to the more active search modes.

The work of Kefalas and Schoderbek (1973) and Schoderbek and Kefalas (1980) combined research on systems theory with the finding of Aguilar and Keegan. Specifically, their study investigated a series of propositions relating to the acquisition of and uses of external information within the wider context of management systems, emphasising the role of information as a link between the organisation and its environment and the importance of scanning the external environment as part of the organisation's decision-making process. Kefalas and Schoderbek (1973) based their research on two industries, one operating in a dynamic environment (farm equipment) and another operating in a stable environment (meat packing). Interviews using a structured questionnaire were administered to forty executives in a total of six companies. Like Aguilar, they found that more time was spent on acquiring market information, which they termed 'relatively controllable', and less on the 'relatively uncontrollable' broader external environment.

By introducing a category of 'combination' sources in addition to 'human' and 'documentary' which equate more readily with the categories used by Aguilar (1967) and Keegan (1967), Schoderbek and Kefalas (1980) observe less reliance on personal sources and also show greater importance placed on publications and to meetings which form part of the personal communication network. This example highlights how a change in definition of categories can result in seemingly conflicting findings. Nevertheless, the main contribution of Kefalas and Schoderbek (1973) to environmental scanning research lies in their endeavour to relate the findings to the systems approach and to draw attention to the greater need for external information by companies operating in a dynamic rather than stable environment.

Fahey and King (1977) investigated environmental scanning activity in relation to the corporate planning process. The study sample consisted of twelve large firms and interviews were conducted with key planning officers within each company. The survey instrument used was patterned after Aguilar (1967). In their findings, the 'regulatory' and 'economic' areas emerged as the most crucial and the most likely to be integrated into the long-range planning process. Their research also identified three scanning modes; 'irregular' or ad hoc crisis reaction'; 'regular or 'decision or issue-oriented' and 'continuous or the systems-oriented approach' which leads to continuous monitoring of the environment rather than specific events. From this small survey, they found only two examples of advanced environmental scanning, with other firms relying on 'ad hoc irregular' scanning. Overall, their findings are consistent with those of Keegan (1974) and Aguilar (1967).

Hambrick (1981) based his study on previous work by Aguilar, Kefalas and Schoderbek (1973), and Mintzberg (1973). His main interest was to explore further links between environmental scanning and both hierarchical and functional areas. In contrast to previous research, Hambrick chose to study service organisations in three different categories (colleges, hospitals and insurance). He distributed mail questionnaires to 203 executives in first, second and third level posts within twenty-one service organisations. The research methods used by Aguilar had relied on the critical incident technique (after Flanagan, 1954) and did not measure the amount of time that executives spent on environmental scanning or the intensity of their efforts. Some attempt had been made by Kefalas and Schoderbek (1973) to qualify scanning expert and Hambrick builds on this in his questionnaire by introducing an attempt to measure both time and level of interest.

Hambrick's results agreed with previous research in finding only a limited relationship between hierarchical level and environmental scanning activity. Similarly, there were few relationships between function and scanning, except in the finance areas where jobs were more closely defined. This finding points again to the ad hoc way in which environmental scanning is carried out and Hambrick drew attention to the duplication of effort this can involve in some cases, and the danger of scanning voids in others.

Like earlier environmental scanning researchers, Rhyne (1984, 1985) emphasises the importance of external information to the company strategic planning process. In his survey of 89 Fortune 1000 companies, he looked at the nature of the planning process in relation to types and sources of information. He identified five planning types: short-term, forecasting, budgeting (annual planning), long-range planning and strategic planning and found that long-range planning was the most frequently used with only one-third of the companies operating 'true' strategic planning which looked beyond the company's immediate environment. Rhyne found a significant relationship between external and environmental information and strategic planning, and consistent with Aguilar and others, he noted that information on the broad environment was considered relatively unimportant. External personal contacts were also more important to companies conducting strategic planning systems. He concluded that companies which sought to establish strategic planning systems would need to turn their attention more to environmental factors and stressed, as did Fahey and King (1977), the relationship with company structure and the link between the information gathering process and company decision-making.

In view of the importance that research attached to the environmental scanning process, Jain (1984) sought to establish the actual prevalence of the environmental scanning process in US corporations. His study consisted of personal interviews with 37 executives in eleven large corporations and a mailed questionnaire to the chief executives of all Fortune 500 companies. From his results, Jain identified four phases in the evolution of environmental scanning systems: 'primitive, ad hoc, reactive, and proactive'. He found the majority of smaller firms in his study in the 'primitive' phase, medium firms in the 'reactive' phase and the larger firms in the 'proactive' phase, pointing to the time factor involved in the process. Once again the social environment came last in ranking and examples of scanning came only from those in the proactive phase the economic environment, on the other hand, was the most significant at all stages. A variety of organisational arrangements for environmental scanning were encountered in this research and Jain stressed the need to distinguish between scanning for strategic information at the corporate level and for product/market information at the functional level. Like Rhyne (1985), Jain (1984) saw the success of environmental scanning as heavily dependent upon the pre-existence of a strategic planning system.

Specht (1987) studied the sources used by strategic planning groups in small firms to collect information on the environment. Data were collected with mailed questionnaires from four hundred banks and savings and loan associations in the Federal Reserve District (USA). Respondents had to be involved in making strategic planning decisions regarding the entire institution. The relationship between environmental change and complexity and use of personal and impersonal information sources was found not to be direct, but moderated by uncertainty about planning and intolerance of the ambiguous situation. Additionally, personal sources were found to be used more than impersonal ones.

Ghoshal (1988) surveyed the scanning practices of managers in the largest companies in the Republic of Korea (South Korea). The most important kinds of environmental information were those concerning the markets, competition, technology, regulatory policies, resources and broad issues.

In a related fashion, Smeltzer *et al.* (1988) analysed the scanning practices of small business managers in the Phoenix and Kansas City Metropolitan areas in the United States.Data for this study were gathered through semi-structured interviews with owner/managers. Personal sources were significantly more important than impersonal sources; family members and customers were the most prevalent personal sources, while magazines and journals were the most prevalent impersonal sources.

Fann and Smeltzer (1989) sought to determine the extent to which small business owner/managers used information from competitors and about competitors. Interviews were conducted with a random sample of 48 respondents from: construction, manufacturing, wholesale, retail and service firms. The study's findings indicated that small business managers used competitors less frequently than customers and suppliers as sources of information. In addition, the managers did not analyze the competitors' products or services closely, and they did not enter into formal arrangements with them.

In a British study, Lester and Waters (1989) investigated the environmental scanning activities of the corporate planning departments of seven large UK based companies. They found that the planners put most effort into acquiring information on the competitive sector, information concerning competitive industries companies, products and services and markets. Relatively little attention was given to the macro-environmental influences such as economic, political and social/cultural factors.

In their study of Canadian chief executives in the publishing and telecommunications industries, Auster and Choo (1993, 1994) found that the customer and technological sectors were seen to be the most important and uncertain, followed by competition. For telecommunications executives separately, the technological sector was perceived to be the most strategically uncertain, followed by the customer, competition and regulatory sectors. As for sources of information, the studies revealed that executives use multiple, complementary sources when scanning the environment. Personal sources (managers, staff members, customers, and associates) were among the most frequently used, while the company library and electronic information services were not frequently used. Perceived source quality was the more important factor in explaining source use than either perceived source accessibility or perceived environmental uncertainty. The study suggested that the turbulence of the external environment, the strategic role of scanning and the information use context of managers combined to explain why information quality was more important than source accessibility when managers scanned the environment.

2.3.2 Summary of Environmental scanning studies

The literature on environmental scanning is enormous and what has been reviewed is by no means exhaustive but rather a select, illustrative fraction sufficient for the needs of this research project. What does this review of literature tell us? In a summary fashion, we draw the following conclusions:

The literature presents a thorough analysis of the use of external information by managers and it probes deeply into many issues some not previously covered in information science literature, for example, the relationship of the manager with the outside world. In doing so, it provides a perspective because it is concerned with the person running the firm; the human being rather than the system.

The external environment of a business enterprise comprises all outside factors that can impact on the performance or survival of the organisation. Although they are many, most researchers (after Aguilar, 1967) divide the external business into a few environmental factors: customers, suppliers, competition, socio-economic, technological and government.

The research studies on which environmental sectors form the primary focus of environmental scanning show general agreement; the market related sectors of the external environment, with information on customers' suppliers and competitors appearing to be the most important information need areas. The general pattern of source usage for scanning suggests that although managers use a wide range of sources for scanning, they prefer personal sources that communicate information directly, rather than impersonal sources that communicate information formally or to broad audiences. This preference for "live information" from personal sources is particularly strong when seeking information about market-related environmental sectors that are highly fluid and equivocal. The most widely suggested use of information gained from scanning is in strategic planning and decision-making.

Based on the overall literature, we make three important observations. First, we echo the need for library and information research, especially information needs and use studies, to adopt a trans-disciplinary approach in order to improve and expand our understanding of managerial information behaviours. As the literature on environmental scanning amply demonstrates, there is an increasing danger of 're-inventing the wheel' if disciplines pursue narrow disciplinary orientations and pay little attention to related fields. The commonalities in research questions between environmental scanning and library and information science are incontestable evidence for researchers to be multidisciplinary. Thus, the literatures from both fields allow the cross-fertilisation of ideas across disciplines in keeping with what Van Maanen (1998) calls the age of scholarly 'declassification' in which 'scholarly disciplines intermingle, 'borders open, categories collapse and theories blend' (Van Maanen, 1998:24)

Second, and more importantly, the literature from environmental scanning is predicated on the 'open systems' approach of organisational theory. The latter notion simply holds that an organisation's growth and survival is dependent upon the nature of the environment it faces. Therefore, it behoves the organisation to be aware of the environment it currently faces and those that it may face in the future (Fahey *et al.* 1981). In other words, the literature has a sound conceptual basis that sees the environment as the key factor in information needs, information seeking behaviours and use. However, this conceptual framework is to a large degree consistent with the theoretical framework advocated by Dervin (1977), Dervin and Nilan (1986), Taylor (1990) Katzer and Fletcher (1992), Allen (1996) and others, who propose a user and context-centred perspective to the library and information subfield of user studies.

Finally, from a methodological standpoint, again, library and information science research can benefit by embracing a wide array of qualitative methods and innovative ones such as the critical incident technique and structured observation to boost its methodology arsenal. After all, research methods work best in a complementary and supplementary fashion.

2.3.3 Information needs and uses: a historical perspective

Studies of information needs and information seeking behaviours of managers are a comparatively recent phenomenon, considering that the larger body of user studies to which they belong dates as far back as the post Second World War era. Nevertheless, it is important that the topic of information needs and information seeking behaviours of managers be construed in the broader user studies context to which it is a subset. This is because, as we have discussed earlier, the latter provides the overall theoretical framework for the study reported here. Also, we can better understand the information seeking behaviours of SME managers by reviewing the related research of prior studies. These studies are particularly relevant to this study because they identify the key trends that have taken place in the field over the years.

Over the past six decades or so, user studies, or studies of information seeking behaviours as they are variously known have been a fertile ground of intense research activity among scholars from a wide range of disciplines (Hewins, 1990). As we have already noted, in library and information science, recognition of this interest found expression in the devotion of a chapter on information needs and uses in the prestigious journal *Annual Review of Information Science and Technology* (ARIST). Between 1966 and 1990, eleven comprehensive review chapters of *ARIST* had been published on information needs and uses. The literature generated is vast albeit relevant; for useful examples and summaries, the following are recommended: Menzel, (1966), Herner and Herner (1967), Paisley (1968), Crane (1971), Lin and Garvey (1972), Martyn (1974), Crawford (1978), Dervin and Nilan (1986), Rohde (1986), and Hewins (1990).

Modern user studies were developed in response to the growth in science and technology following the Second World War. They originated under the premise that effective information systems could be designed by identifying the information needs of user groups. Early user studies can be traced to the presentation of two seminal papers by Benal and Urquhart during the Royal Conference of Scientists, which provided a great stimulus to the study of information, document and library requirements of scientists (Brittain, 1982). During the subsequent decades, user studies proliferated and were almost entirely concentrated on the information needs of scientists from both pure and applied disciplines. The appearance of empirical studies in the literature has been dated from 1963 but the results of these studies have not yet accumulated into a significant body of knowledge (Lipetz, 1970; Menzel, 1966; Paisley, 1968).

According to Martyn (1974), early user studies were largely concerned with users of scientific and technical information because it was an area in which information problems were most likely to be felt and in which information workers were most active. Most studies were carried out on a relatively small number of subjects drawn either from a specific discipline or from the scientific discipline as a whole, or less frequently from among the users of particular systems. By the beginning of the seventies, user studies had become a truly international phenomenon as programmes in a range of nations such as Canada, the Netherlands and the then East Germany were initiated to study the information needs and uses of scientists and technologists. Towards the end of the seventies, user studies had progressed from the notion of the information user as the scientist/technologist, to a broad concept of the user as any individual seeking information.

As the field of user studies turned its attention to the social and humanities, where general descriptions of users were hitherto lacking, the scope of user of user studies was significantly enlarged. By 1986, user studies had not only covered all disciplines but also any kind of user in a variety of environments (Dervin and Nilan, 1986). Thus scientists were no longer regarded as the exclusive users of information; every member of a community, profession or organisation, every individual, in sum was acknowledged as an information user who could be studied. To illustrate this, user studies have been pursued at the Sheffield University's Department of Information Studies since 1963. During the 1960s and the first half of the 1970s, user studies featured prominently in student dissertations. The work of students reflected methodological advances and experimentation in user study activities in general. By 1969, information issues not confined to library contexts were making inroads in students' dissertations. Studies concentrating upon information needs, information use, information seeking behaviour and the communication practices of special groups became increasingly frequent in subsequent years.

The late 1960s and the 1970s were years in which user studies flourished, most aimed at furthering understanding of forms of information behaviour in the expectation that such knowledge could be used to improve information services of all types. The work produced by INFROSS (Line, 1971) encouraged staff at the Department of Information Studies, University of Sheffield, to introduce, in 1973, a new programme for social science information specialists. Due to the work being developed in the Department, the Centre for Research on User Studies (CRUS) was established in 1975. CRUS became a centre that advised on user study methods, held courses, published methodological guides and conducted research. The first major contribution of CRUS was to review the state- of- the- art in user studies (Ford, 1977).

In subsequent years, CRUS developed a variety of projects focusing on methodological problems and solutions. In particular, three areas were targeted: humanities, education and business information. Also, the utilisation of medical literature was included. Drawing on the growing interest of librarians in community profiling Beal (I979) produced a comprehensive guide to the range of techniques associated with profiling activities. It is considered the standard work in this area. Invaluable courses and seminars based on methodological issues were provided, as well as advice on user research matters. Between 1978 and 1984, over 400 librarians and researchers contacted CRUS for advice.

Parallelling user studies at CRUS, Thomas Wilson developed intensive qualitative forms of data collection in an ambitious project designed to examine the information needs and information services in local authority social services departments (Wilson *et al.*, 1978). Project INISS (Wilson *et al.*, 1978; Wilson and Streatfield, 1980) was conceived as an action research project. The lead researchers, David Streatfield and Thomas Wilson, continued to run workshops on information in social services departments for almost 10 years after the end of the project.

Today, user studies are still an important area of research. In particular, the study of information behaviour is a topic of strategic importance at a time when expressions such as the 'information society' and 'knowledge management' are in daily use and our skills in information seeking and use are challenged at work as well as in other areas. Illustrating this importance of user studies is the rapidly growing sub field of ISIC or INSU. Since 1996, there has been an upsurge of research output from studies of information needs, seeking and use in context. Three major international conferences, all devoted to such studies were held: Tampere, Finland in August 1996 (*ISIC1*), Sheffield, United Kingdom (UK) (*ISIC2*), and Gothenburg, Sweden in August 2000 (*ISIC3*). An important feature of these ISIC studies is that context is very important. Described as multidimensional and incorporating diverse elements as: time, goals, setting, academia, organisation, family life, clubs, citizenships. Thus contexts are malleable but fundamental (Dervin, 1997; Sonnenwald, 1999).

2.3.4 Managers as users of information

In a pioneering Australian study, Maguire and Kench (1974) investigated the information needs of small manufacturers in New South Wales. Specifically, the study had three objectives: (1) to identify areas in which small manufacturers needed information; (2) to determine the methods they used in collecting information; and (3) to identify the ways in which they would prefer to have it. For this study, data were collected through questionnaires mailed to some 980 managers. Overall, the study results revealed that: (1) manufacturers had unmet information needs resulting from their inability to articulate these information needs; (2) convenience and accessibility of an information source were important determinants of source usage; and (3) manufacturers tended to rely on colleagues in similar businesses and suppliers were the most frequently utilised source.

While environmental scanning has generated a strong body of empirical research on the acquisition and use of information by managers, it is by no means the only available related empirical literature. Over the past three decades or so there has been a steady stream of empirical research examining the information behaviour of managers (information needs, seeking and use) in both management and library and information science. These studies are reviewed integratively below.

Blandin and Brown (1977) investigated the relationships between a key problem dimension, perceived environmental uncertainty, and the information behaviour of top-level managers. Data were collected via seventy questionnaire responses from managers in four electronic firms and four wood products firms. They found significant positive correlation between the level of uncertainty perceived by managers and (1) their reliance on external information sources; (2) the use of informal sources of information; (3) their frequency of use of all information sources; and (4) the amount of time they allocated to environment-related information gathering activities. Blandin and Brown (1977) contend that the interaction between uncertainty and information search is bi-directional. Information search may initially be motivated by an attempt to reduce uncertainty surrounding strategic choices. As information is acquired, however, new uncertainties associated with previous unforeseen issues may arise and require further investigation. In this way, uncertainty and information acquisition are dynamically linked.

Stabell (1978) examined the effect of manager's cognitive trait 'integrative complexity' on the choice and use of information sources. An integratively simple person choosing between sources might use only a single rule; such as 'leave out quantitative information'. An integratively complex person, however, would use many rules based on multiple conceptual dimensions and relate these rules to specific decision situations. Thus, the integratively complex person recognises several source attributes and varies the weights of different attributes according to the situation.

Complexity theory predicts that the manager with a more integratively complex perception of the environment will sample a larger number of different sources, will sample more information and will sample these resources more evenly. Data to test this hypothesis were collected by sampling the actual investment decision-making of thirty portfolio managers in a large United States bank. Stabell found significant support for the hypothesis within the category of impersonal sources and weak support within the category of personal sources.

In another British Library, Research and Development funded study, Capital Planning Information (CPI, 1982) investigated the information needs of small manufacturing firms in the United Kingdom. Specifically, the study had three aims: (1) to determine the range of national and local information sources available to small firms; (2) to investigate the awareness and use of these sources; and (3) where possible to identify factors leading to gaps and deficiencies in the provision of information. Data were gathered via semi- structured interviews upon which case studies were built. Overall, the study's results indicated that: (1) small firms did not need information in a general sense, but they needed answers to specific problems and factual data to help them make decisions often at short notice; (2) small firms tended to have few contacts with external agencies but regular contacts existed between the firms and their banks; (3) most information in small firms passed verbally, and usually involved trade contacts, both with suppliers and customers; and the most meaningful contact with a small firm manager was personal, face-to-face and probably on his own premises.

The research by O'Reilly (1982) focused on information seeking by 163 decision-makers in four branch locations at a Country Welfare Agency. Specifically the researcher looked at the relationship between source accessibility, quality and source use. Results revealed that the reported frequency of use of the four major information sources is explained in three of the four cases by the accessibility of the source. The exception is the 'group' source made up of sources within the work unit, *including superiors and peers, which is highly accessible to all respondents. Although the rated importance of the sources was related to their perceived quality, the reported* frequency of use was found to be mainly a function of the perceived source accessibility.

Kotter (1982b) analysed the information behaviours of fifteen successful general managers in nine corporations in various industries in cities across the United States. Data were collected over a few years through interviews, observation and questionnaires. Kotter concluded that successful managers are especially effective in 'agenda setting' and 'network building'. In 'agenda setting', the managers develop loosely connected goals and plans that address their short-term and long-term responsibilities. They evolve their 'agendas' over time, by gathering information continuously. They seek information aggressively, often by asking incisive questions that would provide answers useful to 'agenda setting'. They rely more on information from discussions with individuals rather than on printed sources. In network building, managers develop co-operative relationships among those people whom they feel are needed to implement their 'emerging agendas'. They cultivate relationships with people and sources both inside and outside the firm, mainly through face-to-face contact. Further, the most successful managers create networks with many talented people in them and with strong ties binding the members.

Daft and Lengel (1986) introduce the concept of information richness as a basis for understanding managerial information seeking. Managers essentially handle two sets of information tasks, processing sufficient amounts of information and reducing information equivocality. The successful execution of these tasks requires managers to balance the use of sources with different information richness, operationalised as the capacity of the communication to change mental representations within a specific time interval, that is, to alter or provide substantial new understanding. Richness is dependent upon the variety of cues and the speed of feedback that the communication provides. Among the information media used in organisations, face-to-face communications are the richest because they allow feedback and the use of multiple cues and language variety. Conversely, numeric formal reports such as computer printouts are the least rich because they lack these capabilities. Top managers need rich information when they are trying to reduce the equivocality of ambiguous messages about unclear situations, such as events in the external environment. The interpreted information then moves down the organisation to learn about an uncertain environment, while providing direction for participants to do their work.

In an endeavour to apply the Mintzberg managerial roles, Jones and McLeod (1986) compared the use of sources by senior managers in the four decisional roles proposed by Mintzberg (1973). Interviews, questionnaires and logs of information transaction of five senior executives gathered data over two weeks. A significant proportion of the executives' information came from the external environment and was divided equally between people and organisational resources. Information from first hand and second level subordinates was frequently obtained and valued highly. When engaged in entrepreneurial decisional roles, the executives preferred internal information, but did not care if it was verbal or written. In the disturbance handler role, they preferred internal to external information and preferred internal sources that used verbal media. Finally, in the negotiator role they did not rate negotiating highly and were indifferent about where the information it came from or how.

The Department of Information Studies at the University of Sheffield spearheaded several studies in the 1980s that looked at business information needs and uses (Roberts and Wilson, 1988). A 1986 study investigated the demands and supply of business information of sixty manufacturing firms in three selected geographical areas in the UK (Roberts and Clifford, 1986). The research found that the main demand for external information was in the areas of marketing, products, exporting, finance and competitors, although the demand was spread over all the areas provided. Demand for information resulted mostly from responding to current, immediate events rather than longer-term issues. Information gathering was unsystematic, intermittent and eclectic. The five most important sources of external information were trade associations, sales force, customers, suppliers, chambers of commerce and public libraries. More than half of the participants had at one time or another used a public library service for business purposes.

In two related studies White (1986) and White and Wilson (1988) examined the relationship between managers' functional specialities and their information needs and uses. Theories of organisational structure would suggest that these needs would be dictated by the functional roles of an individual in the organisation. Data were collected by interviews with eighty-two managers of the manufacturing firms in the South Yorkshire/Derbyshire region of England. Five main functional areas were identified: production, sales, marketing, finance and personnel. The general conclusion is that no simple correlation exists between functional speciality and information needs. When asked to rank categories of information important to their work, significant numbers from all five functional areas ranked financial information as very 'very important'. A significant number of operational managers reported marketing information as 'very important'. Marketing and sales managers, who are typically considered to be external-oriented, were found to use large amounts internally produced data. Conversely, managers who mostly handle internal data could encounter a problem requiring outside information. In sum, 'information need and information seeking behaviour was based more on contingent reality and immediate problem solving, than on some notion of set functional roles and responsibilities' (White and Wilson, 1988:5).

Trott and Martyn (1986) conducted a study aimed at exploring the information needs of small firms and to test the relevance of one public library authority's information services to industry. Data were collected through personal interviews with managing directors of participating firms. The study's findings revealed that: (1) business people generally distrust public information services, believing them to be unable to cope with enquiries of a technical nature; (2) they lack time to explain their information requirements in precise detail to a stranger; (3) technical and marketing information was the most frequently sought information and; (4) the Suffolk County Library was the most predominant source of external information.

Johnson and Kuehn (1987) investigated small business owner-managers' search for external information in a major metropolitan area south west of the United States of America. Personal, face-to-face interviews were conducted with seven hundred owner-managers of 132 small and 36 large organisations. The study concluded that: (1) small business are regular consumers of external information, just as large business, but the small business search differs from that in large organisations; small businesses are more concerned with external information than their counterparts in large organisations; (2) small business owner-managers spend more time (over one-fourth of the day) in external search activities than their counterparts in large organisations; (3) small business owner-managers focus largely on market information and rely primarily on verbal exchanges with suppliers, distributors and customers.

Participants ranked personal contacts, journals, trade literature and libraries most often as 'useful' or 'very useful' information sources. Trade journals and newspapers were seen as useful to 'keep up with the outside world' or for information about specific needs that could be addressed with relative ease, such as specifications and statistics. The managers' major information resource, however, were personal contacts, who were seen as the best sources of vital market and competitor intelligence.

Luthans *et al.* (1988) also conducted a large-scale study of managers by analysing the activities of 457 managers from organisations of all sizes in both private and private sectors over a period of four years. Their main conclusion was that managers engage in four categories of activities: traditional management (planning, decision-making and controlling); routine communication (exchanging routine information and handling paperwork); human resource management (motivating, disciplinary, handling conflict, staffing and training); and networking (socialising or politics and interacting with outsiders). Activities in all four categories were done relatively frequently, with traditional management and communications each taking up about 30 percent of the managers' time and effort, and human resource management and networking, each taking up about 20 percent. For managers who were effective (as measured by unit performance, and subordinate satisfaction and commitment), communication activities, human resource management, and traditional management appeared to be the most important activities that accounted for their effectiveness. Among these, the relative contribution of communication activities to effectiveness was by far the least. Communications were most frequent with subordinates, outsiders, others in the organisation and superiors. Somewhat in conflict with previous studies, Luthans and his associates found that managers do spend time and effort on planning and decision-making, as well as a considerable amount of their energies on human resource management.

Achleitner and Grover (1988) looked at information transfer patterns in the finance department of a major defence/commercial contractor. All ten managers in the department identified people as the sources of information for their work. Over 90 percent of the managers' work time was spent on oral communication. People were major sources of data, procedural information, interpretative information, source (who to see) information, current information, and some external information. Task related information dominated daily activities; that is procedures, meeting objectives and problem solving. The information workers requested information from trusted human sources in an informal network. Communication patterns generally followed the organisation's hierarchy.

In an attempt to find out how managers seek and use information in fast-moving environments, Eisenhardt (1989; 1990) studied the information behaviours of top management teams in twelve microcomputer firms operating in 'high velocity' environments where the market and technology are moving so rapidly that if the information is poor, mistakes are costly, and recovery from missed opportunities is difficult. In such dynamic environments, the ability to make fast decisions was found to be linked to strong performance. Contrary to the expectation that fast decision makers would limit their information gathering and analysis to save time, the study found that fast managers used as much and sometimes more, information than do their slower counterparts. Nevertheless, fast managers concentrated on real-time information about current operations and current environment that is reported with little or no time lag, whereas slow decision-makers relied on planning and future oriented information. Real-time information is gathered in several ways: fast managers tracked operational measures of performance, shared information in frequent operational meetings and sought advice from experienced, trusted managers and used the information to develop a larger number of alternatives than the slower managers. They analysed the information quickly, however, by comparing the alternatives with each other, rather than examining each alternative in depth. Fast managers have learned information strategies to accelerate their decision-making without compromising decision quality.

Conyers (1989) investigated the use of external information by managers in larger industrial companies with special reference to the use of electronic information services. For this study, five industries were selected: oil, pharmaceutical, construction, electronics and retail. Data were gathered via mailed questionnaires and semi-structured interviews. The study produced the following results: (1) all respondents (n=122) rated industry market trends and competitor activities as the main areas of external information and personal communications work as the prime sources; (2) information on the organisation's broader environment was viewed as less important; (3) company libraries, where they existed were not always highly regarded or fully exploited as sources of information by managers; and (4) electronic information sources were not in general rated highly as an information source.

Dua (1990) reports a study that investigated information demand by SMEs in China. Like other studies, data were collected through face-to-face interviews with 400 randomly sampled SME managers from various regions of the country. Results suggested that SMEs were very short of information. Specifically, SMEs needed a broad range of information including new product development, markets, technology and technical information. The most widely used sources of information were irregular channels such as person to person contacts, social activities and product ordering fairs, customer feedback as well as through the mass media. SMEs rarely depended on formal information institutions.

As part of her doctoral research, Fletcher (1991) studied the information behaviours of upper level general managers in both the public and private sector. Predicated on the notion that information user problems reflect information needs, the researcher analysed interviews with twenty-six managers, upon which she developed a scheme of eighteen broad categories of situational dimensions that may be used to describe what the respondents perceive as being present and salient in their problem situations. The situations of dimensions were grouped into three components: part of the problem, part of the outcome, and part of the process. Most of the situational dimensions occurred as being part of the problem. Among these, the familiarity dimensions (whether the problem is familiar) has the highest frequency and emerges as a potentially important category.

A Scandinavian perspective comes from Olaisen's (1991) study on the use of external information combined with investment in information technology in small and medium sized companies (40 hotels in northern Norway). The study combined 400 postal questionnaires and in-depth interviews to gather data. The main conclusion drawn was that the phase of small and medium-sized company is into is of utmost interest in external information and information technology than the actual size of the company; that is, whether the firm is a start-up or fully grown-up (mature). The results indicated that the information needs of a SME are determined by the phase of the business. SMEs with a high investment in both external, market information and information systems to process information were found to be more profitable and creative than hotels with high investments in only information systems or external market information itself.

Orminski (1991) conducted a multiphase investigation into the business information needs of Science Park Companies in Bradford, Warwick and the South Bank (London) in the UK. Data were collected primarily through face-to-face interviews with managers of small companies and additional data were gathered through group, pairs and consecutive interviews. The key finding of the study was that a clear relationship appeared to exist between a company's approach to business and its attitude to and exploitation of information. Those companies with more developed business strategies tended to have a more formalised and systematic approach to information gathering and use. This included both market and technical information and the organisation of internal information resources.

Other important findings were that: (1) product, technical and market information were the principal areas of information needs, whereas Chambers of Commerce, information agents (accountants) and personal contacts were the main sources of external information; (2) there is some positive correlation between companies with high use of formal information systems and services and the management qualifications and experience of their personnel; (3) companies with little or no formal planning often working in highly specialised technical areas of business with immediate competitors perceive less need for, and show less interest in using an information service, relying primarily on informal contacts to fulfil short-term information requirements.

In a study of line and staff managers, McKinnon and Bruns (1992) examined how middle and upper level managers in six Canadian and United States manufacturing firms obtained information they need to control daily operations. The firms were involved in heavy manufacturing of basic materials and products, high technology manufacturing, and consumer branded product manufacturing. The seventy-three respondents interviewed were mostly plant managers, sales directors, accountants and other managers. The study found that these managers' information needs were determined by operational requirements: production managers need information to order materials and manage production facilities; sales and marketing managers seek information about order, prices, competitors action and customer needs. For them, 'yesterday's information is of little interest, and tomorrow's is hard to come by', (McKinnon and Bruns, 1992:19). The two most important sources of information that managers value and use are personal observation and management work itself. Other people are a third important source especially when they have proved themselves to be reliable. Other frequently used sources are reports, including informal as well as formal outputs from a management accounting or information system. The major mode of exchange is through interpersonal communications that take place in meetings, one-to-one interactions and unfocused walking through the business.

McLachlan (1993) investigated various aspects associated with information needs of small business executives. Telephone interviews were conducted with seventeen senior managers. Results suggested that: (1) business managers relied more on magazines and to a lesser degree on trade papers as sources of printed information while trade shows, suppliers, seminars/workshops and professional organisations were the most frequently cited sources of oral information; (2) market and economic conditions were the most frequently cited areas of information. The study concluded that size and age of business had some correlation to things that influence information needs: as businesses grow and age, and as complexity increases, uncertainty increases and the need for information increases.

In a national study of over 200 chief executive officers in the Canadian Publishing and Telecommunications industries, Auster and Choo (1993, 1994) found that the chief executives used an uneven mix of internal and external, as well as personal and impersonal sources, to keep themselves informed about the outside business environment. Interestingly, between perceived environmental uncertainty, source accessibility and source quality, it was the latter that had an important relationship with the use frequency of a source.

The results suggested that when it came to gathering information about the business environment, CEOs preferred sources they believed to be reliable and to provide relevant information (Choo, 1994). This is dissonant with the expectation that managers search for good-enough data rather than the best information and may be explained by the CEO's need for high quality information in order to deal with novel, ill-structured problem situations that are presented by the external environment (Auster and Choo, 1993). While the most frequently reported sources were internal and personal, many CEOs also indicated a high usage of printed materials such as newspapers, economic reports and government documents (Auster and Choo, 1994). Interviews with CEOs to find out how the information was subsequently utilised revealed that it mostly supported entrepreneurial decision-making to initiate business strategies, new products or improvements.

McDowell and Rowlands (1993) investigated the demand and supply of export information related to small and medium sized firms in Northern Ireland that export to the European Union (EU). Data were gathered through 100 questionnaires and semi-structured interviews with managers of small and medium-sized firms. A key finding of the study was that a large number of companies needed 'market, competitor and financial information' most, while the Market Intelligence Centre was ranked as the frequently used source of information. Other equally important sources of information were: trade/professional associations, chambers of commerce, consultant/brokers and banks.

Reid and Webster (1993) investigated business information needs and supply in Scotland. Like previous studies, data were collected through 1000 questionnaires mailed to firms in different industrial activities as well as geographic areas. Supplemental data were gathered through face-to-face interviews with a convenient sample of managers. The study results revealed that suppliers/sources of suppliers, market information/research and training were the most highly ranked types of information sought, whereas the sources most consulted were trade associations, chambers of commerce and local enterprise companies.

Kinnell *et al.* (1994) in a dual-phase study, conducted interviews in thirteen small and medium-sized enterprises in China with a view to determining the information needs of the managers. The preliminary results suggested that most managers sought information concerning product development, marketing information and commercial intelligence, i.e. the economic and social environments in those countries targeted.

In a methodologically similar vein, Chalmers (1995) undertook qualitative research on the needs for, and uses of, published and personal information by managers in New Zealand. Respondents came from both small and large companies and data were gathered through multiple case-study interviews with 27 managers sampled purposefully. The key findings of the study were: (1) most respondents did not systematically seek information from secondary (published) sources to assist them in decision-making; (2) environmental scanning usually involved the use of primary sources, and where published sources were used, they were supplemental to personal sources in most cases, and were often obtained in an accidental way, utilising material which respondents came across; (3) most respondents indicated a general awareness of the value of information, including published information, but they had a low level of awareness of their own information needs and how these could be met; and (4) many respondents expressed an interest in computer technologies and some saw information technology as improving the quality of business decision-making in the future. However, there was limited understanding of such technologies as media for access to the 'message', rather respondents were equating the medium with the message.

Marcella *et al.* (1996) provide a rare perspective of rural business information needs in the Northeast of Scotland. Through the use of a questionnaire survey to 2000 businesses, the study sought to investigate business information needs of companies in rural Grampian and to evaluate the capabilities of the public library and other information providers. Additional data were obtained by conducting follow-up interviews with a small number of companies. The findings revealed that companies were complacent about their information needs. However, product information, suppliers, manufacturers and costs received high rankings as areas of information needs. Companies did not naturally look to libraries to provide business information and were frequently unaware of the resources available there. Businesses were much more likely to approach business organisations such as the enterprise companies.

Vaughn *et al.* (1996) examined the role of the public library in providing information to small businesses. Data were collected through self-administered mailed questionnaires dispatched to managers of small companies. The study confirmed that small business owners were the largest user group of public libraries. Other key findings of the study were that small businesses obtain information mainly through informal sources (customers, suppliers, friends, associates and relatives). The Internet was ranked as the least important source of information. Like previous studies reviewed, markets/customers were listed as the most frequently type of information. In consonance with Johnson and Kuehn (1987), the study also found that technology recorded a high rating as an area of information need.

In similar vein, Vaughn (1998) compared the use of business information in a Western culture (Canada) and an eastern culture (China). Data on the use of various types of information sources were gathered through surveys consisting of self-administered questionnaires to a total of 5068 managers of SMEs in Canada and China. The results suggested that informal information sources were more important and better used than the formal ones in both cultures. However, business peoples' self-perception of their overall information use differed between the two cultures. In the Canadian medium-sized business survey, self-perception correlated with their use of formal information sources, not the informal ones. In contrast, the two Chinese survey showed that Chinese business people's self-perception of information use correlated with both informal information use and formal information use. The difference between the Canadian and Chinese business people was interpreted to reflect the culture difference: overall, Canadian culture tends to be more formal and print-oriented than the Chinese culture (Vaughn, 1998:168). Finally, electronic information sources were poorly used in both countries.

Having presented an extensive review of the literatures that tackle information behaviours of managers, the table below summarises the studies.

Table 2.2 Summary of empirical research: managerial information behaviour

Study	Geographic Location	Industry Focus	Firm Size	Sample size	Data methods	Research issues	Key findings
Maguire & Kent 1974	Australia	Manufacturing	Small	(n = 920) CEOs	Mail Questionnaires	Information needs of small manufacturers	CEOs have unmet information needs
Blandin & Brown 1977	USA	Electronic	Large	NA	Mail Questionnaires	Perceived environmental uncertainty and information search behaviour	Significant correlations between the level of uncertainty and reliance on external information sources
Stabell 1978	USA	Banks	Large	(n = 30) Portfolio managers	NA	Managers' perception of their information environment and their use of information sources	Significant support for the hypothesis for impersonal sources but weak support for personal sources
Captial Planning Information 1982	UK	Manufacturing	Small	(n =200) Managers	Interviewer administered questionnaire	Use of information by small businesses	Small business managers need answers to specific problems and factual data to help in decision-making
Kotter 1982b	USA	Multiple	Large	(n = 15) General managers	Interviews Questionnaire Observation	Information acquisition and use behaviour	Successful managers aggressively seek information through 'agenda setting' and cultivate relationships with people and sources outside the firm via 'networking
Lewis 1982	USA	Manufacturing Retail Service	Small	(n = 950) Presidents	Mail Questionnaires	What sources and methods are relied upon to acquire information relating to the firm's external environment	Presidents prefer personal sources of information and utilize information on strategic issues
O'Reilly 1982	USA	Welfare agency	Large	(n = 163) Branch managers	Mail Questionnaires	Impact of source accessibility and quality on the use of information by decision makers	Frequency of use was mainly a function of perceived accessibility
Jones & McLeod 1986	USA South-West	Multiple	Large	(n = 5) Senior	Interviews Questionnaires	Where and how do senior executives get their decision	Senior executives receive much of their information from the environment. Internal

				executives	Transaction logs	making information	information is important and preferred sources vary with different decisional roles
Roberts and Clifford 1986	UK	Manufacturing	Small	(n = 60) Managers	Interviews	Demand and supply of business information	Main demand for external information centre around marketing, products, exporting, finance and competitors
Johnson & Kuehn 1987	USA South western	NA	Large and Small	(n = 626) Owner/ managers	Personal Interviews	Small businesses' search for information from its external environment	Small businesses are regular consumers of information just as large are
Specht 1987	USA	Finance	Small	(n = 109) CEOs	Mail Questionnaires	Information sources used for strategic planning decisions in small firms	Personal sources of information were used more than impersonal. Personal sources provide richer media than impersonal sources
Achleitner & Grover 1988	USA	Finance Department	Large	NA	NA	Information transfer patterns among managers and information workers	Communication patterns generally followed the organization hierarchy
Smeltzer *et al.* 1988	USA	Service Retail	Small	(n = 88) Owner/man agers	Semi-structured Interviews	Environmental scanning practices in small firms and information sources used	Owner/managers scan fairly regularly. Informal sources more valuable than formal and personal sources valued than impersonal
White & Wilson 1988	UK	Manufacturing	Small	(n = 82) Managers	Interviews	The relationship between the manager's functional roles and their information needs	No correlation between the managers' functional roles and their information needs. Financial information ranked as very important
Conyers 1989	UK	Oil, Retail Construction Pharmaceutical Electronic	Large	(n = 122)	Mail Questionnaires	Areas of information sought and sources of external information	Industry market trends and competitor activities are the areas of external information sought. Personal communication networks and industry

							publications are the prime sources
Fann & Smeltzer 1989	USA	Manufacturing Wholesale Construction Service	Small	(n = 48) Owner/managers	Semi-structured interviews	The extent to which small business owners seek information from and about competitors	The use of information from competitors is relatively limited
Lester & Waters 1989	UK	Multiple	Large	(n = 7)	Interviews	Environmental scanning activities of corporate planners	Planners put the greatest effort into acquiring information on the competitor sector i.e. Markets, product services and companies
Dua 1990	China	Manufacturing	Small	(n = 400)	Mail Questionnaires Interviews Meetings	Demands for various types of information	Lack of complete up to date information poses a severe limit to SME development
Olaisen 1991	Norway	Hospitality hotels	Small	(n = 40)	Postal Questionnaires In-depth interviews	Use of external information	Information needs of SMEs are determined by the phase of the business
Ormiski 1991	UK	Multiple	Small	NA	Face-to-face Interviews	Business information needs	Clear relationship between company's approach to business strategy and its attitude to information exploitation
McKinnon & Bruns 1992	USA & Canada	Manufacturing	Large	(n = 73) Plant managers & Sale directors	Face-to-face interviews	Acquisition and use of information to control daily operations	Managers' information needs are determined by operational tasks
Auster & Choo	Canada	Tele-	Large	(n = 207)	Mail	Scanning behaviours of CEOs and	Amount of scanning increases with

1993		Communication & Publishing		CEOs	Questionnaires	sources utilized	perceived environmental uncertainty and CEOs use a mix of internal and external sources
McDowell & Rowlands	Northern Ireland UK	Multiple	Small	(N = 100) Managers	Personal Interviews	Demand and supply of export information	Market/ competitor, and financial information were most sought types of information while the source was Market Intelligence Centre
McLachlan 1993	Canada	Services Hospitality Retail Manufacturing	Small	(n = 17) Senior Managers	Telephone Interviews	Small business information needs and sources	Oral sources are most frequently used and personal sources are the preferred choice
Choo 1994	Canada UK	Tele-communications	Small and Large	(N =113) CEOs	Mail Questionnaires Interviews incorporating critical incidents	Environmental scanning by CEOs and determinants of source usage	Information source usage is significantly associated with perceived source quality
Kinnell *et al.* 1994	China	Manufacturing	Small and Medium	(n = 13) Managers	Questionnaires Interviews	Need for and provision of information services to SMEs	SMEs information needs exhibits similar information needs as those of Western countries
Chalmers 1995	New Zealand	Food and Electronic	Medium and Large	(n = 27) Managers	Face-to-face Interviews	Need for and use published information	Managers do not systematically seek information from published sources but use personal sources
Marcella *et al.* 1996	North-east Scotland (UK)	NA	Small	(n = 2000) Managers	Mail Questionnaires Interviews	Business information needs	Companies were complacent with their information needs. Products, suppliers, manufactures and costs were highly rated information needs

Vaughan *et al.* 1996	Canada	NA	Small	(n = 108) Owner/managers	Mail Questionnaires	Sources of information and kinds of information needed by managers	Businesses need technology, followed by marketing information
Vaughan 1998	Canada and China	NA	Small	(n = 580) Owner/managers	Postal Questionnaires	Types of information needs and sources used	Considerable similarity in information use across two cultures. Informal sources rated more important and better formal ones

2.3.5 Conclusions of empirical literature

This section has reviewed only a selection of the vast empirical and interdisciplinary literature that focuses on managerial information needs, acquisition and use. As would be expected, the literature covers a mosaic of research themes and uses dissimilar methods of enquiry, measurements and operationalisations. Consequently, this renders any attempt at generalising fraught with difficulties. Nonetheless, in aggregate terms, we are able to distil the following observations.

First, the literature of information needs and information seeking behaviours of managers is predominantly focused on managers from developed nations of the world, particularly the United States of America, the United Kingdom and other Western developed nations of the world. No examples were uncovered in the literature dealing exclusively with SMEs from a developing country context such as Botswana. We interpret this as an important lacuna in the literature that needs to be filled. Second, the vast majority of mainstream user studies tend to overlook the external environment that firms inhabit. This too is a shortcoming that merits the attention of future research.

Third, library and information science research on information behaviour continues to be characterised by methodological dissimilarities, dissonance in findings and does not seem to follow a clear-cut programme. Despite the limitations in the empirical findings, an aggregate analysis suggests that managers indicate a substantial need for information about the external environment, which spreads over a number of environmental sectors. However, market related information, with information about customers and suppliers are the most important. In addition, we find that: (1) managers' information needs are often task-oriented and typically driven by current immediate problems; (2) managers' exhibit preference for human sources and often have their own interpersonal networks of familiar trusted sources; (3) managers prefer verbal media and oral communication; and (4) research on the information needs and seeking behaviours of managers per se is still in an embryonic state, as demonstrated by its unsystematic and conflicting nature and pervasive calls for further studies.

Finally, this review has shown that information needs and information seeking behaviour of managers is an expansive domain. It is an area that can benefit from disparate literatures. The literature from management, especially the subfield of environmental scanning is particularly relevant to information behaviour research. As shown in our review, environmental scanning is essentially an information seeking activity practised by managers. Thus by tapping on the literature from this field, we not only expand our view of what managers do with information, but we also capture a portrait of sources that managers utilise. In brief, library and information needs research in particular would benefit immensely from interdisciplinary approaches that invoke cognate literatures to construct a theory of information use by managers. Clearly, this is a big challenge that researchers ought to address. Without adopting a joint-strategy, we run the risk of propagating a highly fractionated view of managerial information behaviour. Moreover, a limited appreciation of links across disciplinary perspectives can prove inefficient as researchers fail to take advantage of ideas produced in other areas and simply rediscover what is already known. Interestingly, other disciplines are calling for a similar approach in research: the following quotation from strategic management elucidates our point:

> systematic investigation of perception and interpretation can be found in the social and cognitive psychology literatures. What is needed is more systematic integration of this empirical research into strategy literature. We believe that much can be learned from integrating across research studies that ask similar questions with different methodologies (Lant, Milliken and Batra, 1992:605)

2.4 Synthetic chapter summary

The purpose of this chapter has been to provide a detailed review of both conceptual and empirical literatures germane to the topic: information needs and information seeking behaviours of managers. In part one, seven human information seeking models were examined as well as the open systems approach from organisational theory. The seven models: sense-making (Dervin *et al.*, 1983), Information Search Stages of (Kuhlthau, 1991; 1994), the Anomalous States-of-Knowledge (*ASK*) of Belkin *et al.* (1980), Taylor's (1986; 1991) Information Use Environments (IUEs), Katzer and Fletcher's (1992) Information Environments of Managers (IEM), and Wilson's general framework (1981; 1996;1999) all belong to the 'Alternative' paradigm described earlier above. In a nutshell, they are in the main, all constructivist/interpretive and capture those cognitive, affective, social, and environmental factors related to a person's tasks, goals and intentions that trigger the information seeking incidents.

On the other hand, the organisational theory perspective underscores the centrality of incorporating the environment that organisations inhabit, as this is the source of resources, information and ecological variation. The overall picture it paints is that information plays a central role in organisations and the environment is also critical in determining the success or failure of organisations. To expand our limited knowledge of managerial information behaviour, our research should integrate this perspective. Taken together, the human information behaviour models from library and information research and the open systems theory from organisation theory provide us with a brighter lens through which to examine the information behaviour of managers.

With respect to part two about empirical literatures, this chapter has reviewed selected studies from management, library and information science and other cognate fields. The key intent was not exhaustivity but to expose the salient and often overlapping themes that have been addressed to date. More importantly, it was also our objective to uncover salient lacunae in the literature that could be candidates for future enquiry. Also, Mintzberg's watershed study provided us with a vital framework of understanding managers as important executives who formulate and implement strategic initiatives, which capitalise on environmental opportunities. Thus we begin to see the full breadth and depth of managerial activities in a task-orientated context. Finally, our review of literature also attempted to make generalisations about the current state of knowledge vis-à-vis managerial information behaviours: (1) managers have a critical need for external information; (2) they suffer from an abundance of irrelevant information; (3) they strongly favour verbal media; and (4) their information needs are often task-related and are triggered by current immediate problems.

Above all, a key contribution emanating from our review of empirical literatures is the striking similarity between issues covered in environmental scanning and mainstream user studies. On the basis of this, our interpretation is that this is compelling evidence for library and information science researchers, especially in the subfield of user studies, to integrate multidisciplinary perspectives to gain a better understanding of managers' information needs and seeking behaviours.

In the next chapter, we devote our attention to a discussion of the tactics employed in this study.

Chapter 3 - Research context

3.0 Introduction

In the new genre of ISIC studies, context is very important. Most classical scholars on ISIC research are concordant that context is crucial as the source of meaning (Wilson, 1981; Taylor, 1991; Kuhlthau 1993; Dervin, 1997; Sonnenwald, 1999). In essence, at the heart of their view is the notion that information is locale-specific since it is embedded in a given context. Talja *et al.* (1999:751) sum it up well: 'information needs and seeking researchers now want to emphasise the socially and historically embedded nature of their research objects'. Corroborating this line of reasoning, Hall (1984; cited in Grover and Glazier, 1984) suggests that a detailed examination of the context in which the data are embedded increases the reliability of the data.

Similarly, several prominent scholars in the field of organisational theory echo a related view (Tushman, 1977; Culnan, 1983; Daft *et al.*, 1988; Milliken, 1990; Boyd and Fulk, 1996; Choo, 1998). Central to their argument is the notion of environmental uncertainty. Defined broadly, environmental uncertainty is the degree of complexity in an organisation's external environment; i.e. an absence of information about industry structure, its changes and executives' inability to predict these changes and their impact or organisational decision-making alternatives (Duncan, 1972).

Considerable empirical evidence from organisational theory suggests that the macro-environment (e.g. social, competitive, economic, technological, political, regulatory sectors) creates both problems and opportunities for organisations, that is, the character of the environment may constrain or permit certain things relating to their prosperity or otherwise. Business organisations depend on the environment for scarce and valued resources and organisations invariably, must cope with unstable, unpredictable external events (Daft *et al.*, 1988). Most importantly, the environment is important because it creates uncertainty for top managers. Environmental uncertainty in turn, increases the demand for information within the organisations because the managers must, through the conduct of extensive searches of information, identify opportunities, detect and interpret problem areas and implement strategic or structural adjustment (Hannan and Feeman, 1977; Aldrich 1979; Hambrick, 1982; Culnan, 1983; and Milliken, 1990). In short, the environment is not a passive wrapping, but rather a set of active processes, which, though invisible are crucial to the overall performance of organisations (see section 2.2.1 in chapter two for a detailed discussion of perspectives on the environment).

Following the recommendations of leading scholars, and because SMEs are not insulated from the vagaries of the environment within which they operate, this chapter seeks to survey the main geographical, political and economic and social features of Botswana so as to provide the broad environmental context and setting within which the SMEs and SME managers (the subjects of research) operate. Specifically, this chapter has four objectives: (1) to provide a baseline portrait of the social and historical context in which the study's research objects are situated; (2) to describe the contemporary business environment in which SMEs operate; (3) to situate the manufacturing sector into the larger industrial scene, and; (4) to highlight some of the major challenges confronting the business environment.

3.1 Botswana: Geography

The Republic of Botswana is a completely landlocked country in the centre of Southern Africa. It is bordered by Namibia to the west, Zambia and Zimbabwe to the northeast and South Africa in the south and southeast. The country covers an area of about 581 730 square kilometres (224 607sq miles), almost the size of Kenya or France, and is relatively flat.

The flat vast western part is semi-arid with rocky out crops. Two thirds of the country is characterised by gently undulating sandy plain covered by bush and grass. The Kalahari Desert occupies more than 70 percent of the country, with valleys and pans etched across the landscape. One of Southern Africa's longest river, the Okavango, flows through the country's north western part, creating a huge delta of some 16 800 sq. km to form a unique environment with a myriad of water channels. The Okavango Delta, the world largest in-land drainage system, is also the habitat of a substantial population of varied species of fauna and flora, for example, the Delta offers some of the best wild life viewing anywhere in Africa where game is plentiful (Hutcheson, 1999).

3.2 Climate

Botswana's climate is semi-arid. Though it is hot and dry for much of the year, there is a rainy season that runs through the summer months of October to March. Rainfall is erratic, ranging from 250mm per year in the southwest to over 600mm in the northeast. Rainy seasons occur with significant variations from year to year and periods of severe drought are not uncommon.

3.3 People and history

The total population is approximately 1 680 863 (CSO, 2001) including several ethnic groups dominated by those who are Setswana speaking, all of whom are known as Batswana. About 80 percent of the people live in the eastern regions of the country. Setswana is the national language, while English is the official medium used in business and most government affairs. Christianity is the official region. However, other religions have of late introduced churches, mosques and temples in Botswana.

Archaeological evidence suggests that people settled in Botswana as early as the 4th Century AD. The hunter-gatherer San (pejoratively called Bushmen) were the earliest inhabitants. Subsequently, major settlements took place in the 16th century. Tswana communities entered the country and a system of incorporation was set in motion, with absorption of the Shona speakers. Seeking protection from invasions by Zulus and Boers in the early 1800, tribal chiefs turned to Britain for support. Initially called Bechuanaland, the country was declared a protectorate in 1885. Botswana became independent in 1966 with the constitution providing for a republican form of government.

3.4 Main Centres

Botswana has only two cities and five towns. The vast majority of the population centres are classified as villages although some have populations well in excess of 40000. For example, Molepolole, considered one of the largest villages in

Botswana has a population of 54,561 (CSO, 2001). In the sections that follow, we briefly describe the cities and two of the towns with significant population of SMEs.

3.4.1 Gaborone

Located in the south east of Botswana along the Notwane River, Gaborone was chosen as the country's capital in 1966 due to its proximity to the railway line and availability of water. Gaborone is home to numerous industrial activities including vehicle assembly, bread and beverages, dairy, horticulture, meat processing diamond cutting and polishing, building materials, printing and publishing.

3.4.2 Francistown

Francistown in the northeast is Botswana's oldest commercial centre. Long before Gaborone was anything more than a village, Francistown was established to serve the gold mining industry. Although somewhat overshadowed in recent years by the tremendous growth of Gaborone, Francistown with a population of approximately 83,023 (CSO, 2001) has experienced considerable expansion as an industrial and agricultural centre. Industries found in Francistown include manufacture of gaskets, clothing, knitwear, shoes and accessories, textiles ceramics, and chemicals. Many service industries flourish, particularly those related to construction and transport trades.

3.4.3 Lobatse

Lobatse, 70 kilometres to the south of Gaborone and with a population of 29,689 (2001) is the centre of the cattle industry; housing the main abattoir and headquarters of the Botswana Meat Commission (BMC). Although the BMC dominates in terms of manufacturing output, quite a few industries take place on a smaller scale. Lobatse brews traditional beer called Chibuku. Sefalana Mills, Lobatse Clay Works and Sugar Industries are located there, and smaller firms make processed meats, stainless steel cutlery, candles, caps, and helmets, knitwear, shirts and swimwear.

3.4.4 Selebi-Phikwe

With approximately 41.3 million tonnes of copper and nickel ore deposits believed to exist in the area around Selebi-Phikwe, this town owes its present state of development primarily to the presence of the copper and nickel mine that opened in the early 1970s. Selebi-Phikwe lies 350 kilometres north east of Gaborone. Its total population is approximately 49,849 (CSO, 2001). Most of the male population of Selebi-Phikwe works in one or another aspect of the copper-nickel process.

To ensure, that economic life in Selebi-Phikwe extends beyond that of the mine, government embarked on the Selebi-Phikwe Regional Development Programme (SRDP) in 1988. The SRDP aims to diversify and boost the manufacturing sector in the town. Today, several non-mining export-oriented enterprises are in business. The main industries are garment manufacturing jewellery, automotive accessories, structural engineering, sanitary ware, and furniture and mining accessories. Selebi-Phikwe's regional development programme continues to attract interest from potential investors.

3.5 Political structure

Although Botswana is not well known worldwide, compared to her neighbours, it is one of Africa's leading democracies. Formerly known, as Bechuanaland, Botswana became a republic within the British Commonwealth on September 30th 1966, after 80 years as a British Protectorate. Since Independence, the country has established itself as one of few multi-party democracies in sub-Saharan Africa. In fact, some writers on the politics of the country have described Botswana as a 'shining example' of liberal democracy in a continent otherwise notorious for one-party states and/or military dictatorships (Good, 1992). Recently, a visiting French Deputy Minister of Foreign Affairs, Mr Renaud Musiler described Botswana as the "Switzerland of Africa". These accolades stem from perceptions of the well-functioning democratic institutions that the country has in place and long-standing track record of free and fair elections and of political stability.

The constitution of the country established a non-racial democracy that maintains freedom of speech, freedom of the press and association, and guarantees all citizens equal rights. The head of state is the president, who is elected for a period of five years by the National Assembly. He/she is also the executive head of government and is a member of, and presides over a cabinet consisting of the vice-president, 14 ministers and two additional assistant ministers

The legislative power of the republic is vested in the parliament of Botswana that consists of the president and the National Assembly. The latter comprises 32 elected members, four specially elected members and the attorney general who can speak but not vote in the assembly. Elections are held at five-year intervals and all citizens above the age of eighteen are eligible to vote. All eight of the elections since 1966 have been regarded as generally fair and free. The Botswana Democratic Party (BDP) won the last legislative elections held in 1999, with a significant majority.

Further, under the constitution, there is a House of Chiefs, with advisory functions. It consists of Chiefs from the so-called eight principal ethnic groups in Botswana as ex-officio members. The House of Chiefs considers draft legislation wherever it pertains to constitutional, traditional and chieftainship matters.

In a nutshell, the contemporary political environment in Botswana can be summed up as stable, free of political strife and excessive crime rates.

In the next section and others that follow, we turn our attention to the economic history of Botswana. Our rationale for this approach is that SMEs as economic entities are inextricably linked to the economic history of a given context. Seen in this perspective, it is necessary to grasp the broader sweep of economic trends that have shaped not only the SMEs but also their operating environment.

3.6 Economic structure: an overview of the contemporary situation

Since diamond mining began in 1971, Botswana has been transformed from an agricultural based economy to one in which diamonds account for more than 80 percent of the exports and 50 per cent of the government revenue (SADC Review, 2003). Revenues from abundant diamond resources, coupled with fiscal prudence (wise usage of financial resources) have enabled the country to record uninterrupted growth and soaring per capita income over the past 30 years, allowing Botswana to develop from one of the world's poorest countries to a middle-income country with a GDP per capita of about $3.300 (Reuss, 2002). Further, years of substantial current account surpluses have facilitated the accumulation of strong foreign reserves. Gross international reserves stood about $6 billion at the end of 2001, equivalent of 26 months of imports. Overall, the strong and well-managed minerals economy underpins the stability that has characterised the political environment for the past thirty-seven years. To date, the country is regarded as one of Africa's economic success stories. Table 3.1 below presents some of the key economic indicators, i.e. data about the state of the economy.

Table 3.1 Botswana: Economic Indicators

Total Area	581.730 square km
Population Growth rate	2.4% (2001)
Head of State	Mr Festus G. Mogae
Real GDP	P28.9 billion (2001)
Non-Mining Sector GDP	3.9% (2001)
Unemployment	19.5% (2003)
Currency	Pula (divided into 100 thebe)
Population	1.680 863 (2001 Census)
Capital	Gaborone
Political system	Multi-party Democracy
Literacy rate	68.3% (1993))
Life expectancy	55.7 (CSO, 2001)*
Inflation	6.4 % (Bank of Botswana, 2004)
Exchange Rates	P1.00 = 0.1174 Pound sterling (Jan 2004) P1.00 = 0.2151 US$ (Jan 2004)
Exports	P13.8 billion
Imports	P10.6 billion (2001)
Balance of payments	P1.024 billion (2001)
Major Trading Partners	South Africa, Zimbabwe and Europe
Foreign Reserves	P41.2 billion (US$6 billion)
Major Exports	Diamonds, Copper Nickel, Soda Ash, Beef and Textiles
Major Imports	Food, Beverages & Tobacco, Machinery & Electrical Equipment, Vehicles, Transport Equipment and Fuels

* The dramatic decline of life expectancy from 67 is attributed to the HIV/AIDS pandemic.

In order to highlight some of the important trends in the economic development of the country, this section of the chapter divides the economic history of the country into two distinct periods: the Pre-colonial and the Independence era.

3.6.1 Economic Development: colonial era

Botswana was colonised by Britain in 1885. However, for the eighty years of colonial rule, the country remained underdeveloped and was used mainly as a labour reserve by neighbouring South Africa. At the time of her independence from Britain in 1966, Botswana was listed amongst the world's poorest countries. It was uncharitably labelled a "hopeless basket case" (Colclough and McArthy, 1980). Botswana was lowly rated by the colonial office, so much that the country was even ruled from outside its borders, from Mafeking, in the Cape Colony, the only known case in the annals of the British Imperialism. Harvey and Lewis (1990:15) observe that the country suffered social and economic neglect, even by African standards. They note that:

> Despite more than eighty years of British rule, Botswana inherited very little infrastructure and very few people with education, training or experience except that provided by traditional activities and low level work in South African mines and farms. Until independence, the country had neither capital city nor even the benefits of a small spending power of the colonial administration. Another symbol of neglect was that Bechuanaland never had its governor like other colonies. The governor was the British High Commissioner to the Cape colony and later to the Union of South Africa.

According to Colclough and McArthy (1980), Botswana differed from the classical type of a colony in the sense that Britain was not attracted to Botswana by the availability of raw materials and other economic resources that she could exploit, but because of her military and strategic considerations. Halpern (1965) points out that the strategic importance of Botswana lay in its being what Cecil Rhodes called the "Suez-canal to the north". According to Halpern, the colonisation of Botswana was therefore to secure a link to Cairo in an unbroken imperial line. Inside South Africa, Britain was facing rebellious Boers. Britain was also facing the military challenge and feared that the Germans in South West Africa (Namibia) and the Portuguese in the eastern part, Mozambique, and the land-hungry Boers who had already annexed the Southern part of Botswana, might between them annex the central part of Southern Africa, where Botswana is, and close the British route from its base in Cape Colony to Central Africa. As a result of this, Britain instructed its representative in the Cape, Sir Charles Warren to inform Botswana Kings that their country had now become a British Protectorate (Colclough and Mcarthy, 1980).

Because of its economic unattractiveness, Botswana remained just a buffer zone between the Germans and the Portuguese, and no economic development took place. Colclough and McArthy (1980) further argue that the British attitude was to keep the financial cost of their involvement in Botswana to a minimum. The Governor of the Cape Colony is reported as having uttered that "as little in the way of administration or settlement as possible"(Colclough and McArthy 1980: 12). In order to finance the country from local sources, the colonial administration introduced a poll tax in the territory.

In 1934, Britain introduced the Native Administration Proclamation designed to curtail the judicial powers of the chiefs and to give the colonial state authorities the powers to suspend chiefs if they were not performing their duties satisfactorily. Other colonial state actions included the credit to Natives Proclamation, which restricted the borrowing capacity of the indigenous people to £35 a year, restricted Botswana's economic activity to agriculture and reserved modern commercial activities to Europeans and Indians only (Mogalakwe, 1994). The absence of any industrial or manufacturing base resulted in the establishment of a nation-wide migrant labour recruitment network after the introduction of the poll tax by the colonial state. Consequently, many able-bodied young men especially from the disadvantaged families who could not produce surplus to meet their tax were forced into the migrant labour scheme. The migrant labour system became a traditional source of wage employment in colonial Botswana in particular and Southern Africa in general. Thus, Botswana's history of underdevelopment continued throughout the colonial period. At the time of Independence, about 30 percent of Batswana between the ages of 20 and 40 were working in South African mines, manufacturing industries, farms or as domestic labourers (Harvey and Lewis, 1990).

From the foregoing discussion, it is safe to conclude that, at Independence, Botswana was one of the poorest countries in Africa. During British Administration of the Protectorate, there was hardly any economic development of any substance except an abattoir in Lobatse. There was complete disregard for education, health, and communication, manpower and water development. The main reason for this was that Britain regarded the Protectorate for purely strategic reasons not for economic exploitation. Since the country was seen as a useless expanse of desert land, the main economic value was the regular supply of migrant labour to gold and diamond mines in South Africa. An overwhelming rural population depended mainly on agriculture for livelihood, beef production was the mainstay of the economy in terms of output and export earnings but arable and livestock agriculture had been ravaged by a prolonged drought in the early 60s. Apart from the railway line, communication and infrastructure were barely developed. Prospects for rapid development of the economy seemed bleak and the government was dependent on foreign aid (mostly from Britain) not only for its investment projects but also to finance its recurrent expenditures.

3.6.2 Economic Development: Post independence era

In order to highlight an important epoch in the economic history of the country, this section is 'conveniently' subdivided in two distinct eras; the first part concentrates on the era between 1966-1990, while the second begins from the early 1990s, a time when the Government accepted the International Monetary Fund (IMF) and the World Bank proposition to diversify the economy and thereby reduce dependence on diamond and agriculture (Mathambo, 1999). Thus, the 1990s marks a watershed in the economic transformation story of the country, as it is from that period that we begin to see the intensification of the build-up to the contemporary SME activity. In other words, the current flurry of SME activity is directly traceable from the Government's accelerated efforts to diversify the economy.

3.6.3 Post-Independence period: 1966-1990

Since independence, Botswana's economy underwent rapid economic transformation. The country was transformed into the richest economy in Southern Africa (excluding South Africa) and was one of the few African economies to be classified by the World Bank and the United Nations as an 'upper-middle-income' country (Hope, 1996). Botswana was rated as one of the world's fastest growing economies with an average annual growth rate of 12.8% between 1965 and 1990, it experienced persistent surplus on both government budget and the balance of payment, and had a relatively stable currency (Jeffries and Harvey, 1996).

There were significant changes in the country's social, economic and physical landscape. There was growth in the formal sector of employment, urbanisation, the building of good roads and telecommunication networks, the creation of an educational and health infrastructure, and an improved standard of living for most people especially those in urban areas (Harvey and Lewis, 1990). Botswana's per capita income was estimated to be P8000, 00 and foreign reserves stood at US $5.1 billion, almost two years of import cover, by 1990 (EIU, 1997). The rapid economic performance triggered numerous commentaries about Botswana: some economists have characterised Botswana as an African, and sometimes as an unparalleled Third World economic success story alongside the so-called Asian Tigers: Hong Kong, South Korea, Malaysia, Singapore, Taiwan and Thailand (Harvey and Lewis, 1990; Hope, 1996). The most recent of these glowing commentaries on Botswana has come from Stedman (1993:1) who argues that:

> At a time when Africa's dismal economic performance and political corruption and management have given rise to a new intellectual movement called Afro-pessism, when analysts create generic models of African governments that include lame leviathans', 'swollen states', 'kleptocracies' and 'vampire states', Botswana stands out as an example of economic development, functioning governance, liberal multi-party democracy. It is a country akin to Switzerland, an exception that confounds generalisations, but whose very exceptionality prompts analysts to see a hopeful model for other societies.

However, the reader is well advised to treat such commentaries with caution as they are "partial, tendentious and have examined the economic progress superficially" (Mogalakwe, 1994:34). Mogalakwe argues that most commentators have focussed attention on the economic growth and structural transformation as if the processes take place in a vacuum, and have left out the relations of production that are inscribed in the process. The glorification of the country's rapid economic progress has failed to take into account the uneven development as exhibited by rising unemployment, persistent poverty and widening income inequalities. A question may now be posed as to what have been the factors at play in the economic transformation. The next section of the paper seeks to highlight the contributing factors to economic transformation.

Engines of growth

For much of the post independence period, Botswana was one of the fastest growing economies in the world, in sharp contrast to the economic stagnation and deterioration of most Africa countries. The factors contributing to this economic performance were sound economic policies, prudent management of the nation's fiscal and monetary affairs, rapid growth of mineral revenue especially diamonds, and revenue from beef sales and to a smaller extent, revenue from manufacturing. This project concentrates only on the last three engines of growth largely because they had an enduring effect in shaping the business environment in Botswana.

Mineral sector

During the period under review, Botswana achieved the status of the world's second largest producer of diamonds after the Russian Federation (Hope, 1996). The mineral sector was a major engine of growth for Botswana's economy from the mid 1970s. A series of mining projects since the early 70s, the Orapa and Letlhakane diamond mines, the Selebi-Phikwe copper-nickel mine and the diamond mine at Jwaneng not only expanded the mineral sector production but also stimulated infrastructure development and financed the expansion of government services (NDP7, 1991:12).

Since the development of the country's third diamond mine at Jwaneng, in 1982, Botswana's output of diamond has expanded almost continuously. By the early 1990s, the DeBeers Botswana Mining Company (Debswana), jointly owned by Government and the giant Debeers Mining Group produced 14.7 million carats, confirming the country's position as the number two producers of diamond after Russia (Murray, 1995).

The diamond sector was the key to Botswana's sustained economic growth in the past 24 years. Export earnings primarily from diamond sales, enabled Botswana to accumulate the largest reserves of foreign exchange of any country including South

Africa, and provided Government with revenue to finance most of its development budgets for social and economic infrastructure, such the building of schools, hospitals and roads; electricity, telecommunications and water supply (Murray, 1995). As a result of the huge diamond, the government created many employment opportunities and improved the health, education and skills of the population in the entire country.

Agriculture

Although the mining sector had the most dramatic impact on the economy, agriculture also contributed to the post-independence economic boom. There was a rapid expansion of the national cattle herd and beef exports, in response to high export prices offered by the European Union (EU) through a preferential trade agreement known as the Lom'e Convention. The cattle industry was a major contributor to exports and beef export earnings more than covered the cost of basic cereal imports. As one of the African Caribbean and Pacific (ACP) countries, Botswana enjoyed access to the (EU) market: under the Lom'e Conventions, Botswana was and (still is), entitled to export up to 18 916 tonnes of beef p.a. to the EU on preferential terms (SADC Review, 2003). Export to the EU, the major beef market has always depended on keeping the national herd free of foot and mouth disease and maintaining high standards of hygiene. As a result, the system of cordon fences and vaccination had to be steadily strengthened and there was no out-break of the disease experienced since 1981 (Brown, 1993).

Droughts in Botswana have always been common catastrophes in so far as agriculture is concerned, and always leave a trail of devastation when they do occur. Botswana's agriculture was hit by a series of severe droughts that decimated the cattle herd prior to 1960. Following these droughts, the national cattle herd built up steadily, reaching a peak of 2.97 million head in 1981, before declining again during the drought of 1982 to 1987 and 1991. Cereal output also declined considerably during the drought years. However, after the drought of 1991, there was a steady increase in the national herd and crop produce. Hutcheson (1993) estimates that 62.1 % of the labour force was engaged in agriculture in 1991. Over the past two decades or so government initiated a series of interventionist policies aimed at maximising overall agricultural output. This resulted in some diversification of livestock with increases in the number of goats and sheep and in crop farming; there was greater use of modern farming methods such as practising crop rotation and the application of artificial fertilisers. Agriculture other than being a source of foreign exchange also provided raw materials for the meat processing, tanning, milling soap and other industries.

In sum, it is the beef industry that made a substantial contribution towards the economic transformation in Botswana. The net contribution of arable farming to the economic growth of the country was marginal largely because of the country's unsuitable climate for extensive crop farming, and its susceptibility to the vagaries of the harsh climatic and weather conditions.

Industrial Development

Industrial development before Independence was held back by the absence of urban centres, of significant economic activity and infrastructure and services, and by colonial policies (Kaunda and Miti, 1995). The industrial scene remained relatively marginally developed during much of the post-Independence era. It was only in the 1980s that government instituted some interventionist schemes to rekindle this sector of the economy. At independence in 1966, the manufacturing sector was dominated by the Botswana Meat Commission (BMC), which accounted for an estimated 95% of the total manufacturing value added activities (NDP7, 1991). By 1979/80, the share of meat and meat products in total manufacturing value had declined to about 31% while the share of beverages, textile and clothing increased modestly. Two years after Independence, the government enacted the Industrial Development Act, with a view to spearhead the country's industrial and commercial development. Despite having such an instrument, commercial and industrial development faced many constraints:

- High transport costs because of the landlocked nature of the country.
- Small size of the domestic market
- Limited access to credit financial services
- Shortage of serviced land for industrial development

Notwithstanding these hurdles, the manufacturing sector witnessed a modest diversification and transformation. New entrants on the scene included: Kgalagadi Brewery, a textile and clothes sub-sector and small manufacturing units covering a wide range of activities. Overall, the performance of this sector showed some resilience over much of the period under review. With a share of non-mining GDP of 10%, the sector made a modest contribution to the economic growth of the country. However, the net contribution of this engine was marginal compared to the mineral sector and agriculture.

Summary

By and large, the era under review was characterised by a remarkable economic transformation. Not only was the economic growth rapid, but also progress in the development of infrastructure and improvement in the social indicators over the past twenty-four years had been very impressive. Much of the strong growth was attributed to the diamond-led mining sector. Earnings from diamonds were used to develop the social and physical infrastructure, and some was even directed towards encouraging industrial development.

The agricultural sector's contribution to the Gross Domestic Product (GDP) declined from 40% at Independence to 4% by the close of the eighties. This was due to the rapid development of the mining sector particularly diamonds, and the slow growth in the sector itself. Despite this decline, the sector remained an important source of food, income, employment and capital for the majority of the population in rural areas.

The industrial sector made a modest contribution. Manufacturing accounted for 5% of the country's output and there were signs of growth in the tourism sector. On the whole, as the country enjoyed a long period of peace and stability, the economy continued to be in general good health. The only challenge facing the country was maintaining the remarkable gains made over time, and improve the standard of living of Batswana, taking due note of the structural changes occurring in the economy and political environment, both within the countries surrounding Botswana and in the wider international arena.

3.6.4 Economic Diversification: 1990s to present

By the early 1990s, Botswana's economic success story began to change. Despite the rapid economic growth rate that the country had enjoyed, unemployment remained a problem. The rapid economic transformation had been driven by the mining sector, which by its very nature is capital intensive and creates less employment. Unemployment was officially estimated to be 21% by 1994 (Hope, 1996).

Another problem was the devastating Southern African drought of 1991/92 that decimated a sizeable population of the country's 2.7 million national herd, leaving behind a trail of social and economic misery and hardship. To compound matters, the global economic depression and the ensuing decline in the diamond market resulted in a sharp decline in the GDP growth down from nearly 9% in 1991 to 3.5% in 1992 (NDP8, 1998). The net effect of these factors amply illustrated to government the vulnerability of the economy's over reliance on agriculture and diamonds and presented an urgent need to devise corrective economic strategies to safeguard the country's economic growth.

During the Mid-Term Review of National Development Plan Seven (NDP7, 1994) in the mid 1990s, the IMF and the World Bank recommended to the Government of Botswana to diversify its economy away from the traditional engines of growth. The quotation below aptly captures the thinking behind the conception of the idea of economic diversification:

Botswana will need new engines of growth to replace the diamond revenue and Government expenditure engines that doubled per capita in the 1980s. These engines of growth will have to be economic activities that grow fast enough to pull the rest of the economy along them. It is unlikely that they will be found in agriculture although further processing of agricultural materials from the cattle sector holds some promise. The new engines of growth will probably come from manufacturing and services, but no one can predict exactly which products or services Botswana will develop comparative advantage in (NDP7 Mid-Term Review, 1994:23).

In short, Government needed a multi-pronged economic strategy to sustain the momentum of economic growth established by agriculture and diamond. As a result, manufacturing financial services and tourism were identified as the potential sectors for economic diversification. The subsequent National Development Plan (NDP8), covering the period 1998 to 2003 was introduced with the theme 'Sustainable economic diversification', with emphasis placed on encouraging private sector and intensifying diversification efforts.

Economic diversification as envisaged in the National Development Plan Eight (NDP8) would entail the diversification of the economy in general and the diversification of production for exports in particular, including services and manufactured goods. In effect, the Plan heralded a change in the economic landscape of the country. Arguably, NDP8 can be seen as the prime architect of the country's SME development. Not only did its implementation accelerate the proliferation of SMEs but also set in motion a series of government-initiated activities ultimately leading to the current flurry of SME activity. The sections that follow shall respectively describe these Government activities.

3.6.5 Creating an enabling environment

Having seen diversification as the key solution to some of the problems facing the nation such as poverty, unemployment and economic slowdown, some specific possible engines of growth were identified namely: manufacturing, tourism and financial services. However, government was still confronted with the task of ensuring that the new economic strategy would be actualised through the engines of growth. In view of this scenario, government quickly recognised the need to create a conducive environment for the private sector (both foreign and local) to invest these areas (engines of growth). This was achieved, partly through the maintenance of consistent complementary macro-economic policies, a liberal foreign exchange policy including the abolition of exchange controls and a low tax regime. Thus, government had through its vision and commitment realised that market forces alone would not bring about an enabling environment and so it proactively set up structures that would promote private business at large and SMEs in particular.

3.6.6 Industrial development Policies

Despite Botswana's notable rapid economic growth, industrial development for much of the post independence era was sluggish. To some extent, this was due to the absence of serious political commitment manifested by the absence of vibrant industrial development policies. Prior to 1994, prevailing industrial policies were ad hoc and piece-meal. However, the mid 1990s ushered in a new epoch in the industrial history of Botswana as government was pressured by economic uncertainties to fashion out a comprehensive millennium industrial policy for the country. In this section, we discuss the new Industrial Development Policy (IDP) as a stepping-stone, and to give perspective to SME development in Botswana.

The White Paper on Industrial Development Policy for Botswana (Government Paper no. 1, 1999) is a comprehensive document that spells out the country's millennium industrial strategy. It was approved by Parliament in 1997 and is now being implemented. The new policy seeks to develop an export-led manufacturing sector. Essentially, the policy underscores the critical need to diversify the economy away from its dependence on the resources of the industries of mining and agriculture; the need to foster the growth of the private sector; and the need to support the growth of employment particularly in smaller towns and villages (IDP, 1999).

Cognisant of the ever-mutable global economic environment due in part to globalisation and a host of other factors, the policy identifies the main factors to which industrial development in Botswana must respond and then sets out the main policy directions which will be required in these new circumstances. The policy is based on the following principles:

- Encouragement of a highly productive and efficient export industry based, to the extent possible, on local natural resources and integrated with foreign markets and technology.
- Promotion and expansion of efficient supporting services and component manufacturers, many of which will be small and medium-sized.
- Businesses and assistance will continue to be provided to small-scale and rural entrepreneurs, and where appropriate local community and non-governmental organisations will be utilized to develop business activities in rural villages.

From the foregoing, it is clear that the IDP not only firmly recognises the value of SMEs but also spells out their niche area and appropriate support structures for them to flourish and grow. Effectively therefore, the new policy can be seen as the direct precursor to the current flurry of SME activity. Beyond that, it has also shaped the prevailing business environment.

3.7 SMEs in Botswana: historical origins

The genesis of SMEs in Botswana is better understood within the context of the broader global trends that shaped the evolution of SMEs. Accordingly, we first start with a brief examination of the larger context that influenced SMEs activity in the international arena. The past three decades or so have witnessed a dramatic global renaissance in SMEs within both the developing and developed market economies of the world. At the heart of this renaissance was a pseudo-scientific belief that a healthy SME sector is a fundamental prerequisite for an expanding and globally competitive economy and that SMEs held the answer to development and economic problems in developing countries (Matlay, 2002). As a result of this thinking, coupled with global competition and market fragmentation, economic activity began to move away from larger enterprises to SMEs. By and large, today, the SME sector represents a very large proportion of all the firms (75-99 per cent) in most economies (Matlay, 2002). In the UK, SMEs are the lifeblood of the economy and they account for 99 per cent of businesses and employ 57 per cent of the work force. SMEs also account for a large share of the world export activity (OECD, 1997).

Consistent with this global trend, Botswana has over the past 10 years or so experienced a spectacular increase in the number of SMEs. According to Lisenda (1997), Botswana like other developing nations realised the potential importance of this sector a few years after independence in 1966. Among the driving factors were: the rapidly growing labour force that exceeded rate of growth of employment opportunities in the formal sector, and the declining employment opportunities in neighbouring South Africa and a narrow private sector (Lisenda, 1997: 1). In view of this scenario, government introduced the Local Preference Scheme in 1978, which however, has lately been replaced by the Local Procurement Scheme. The scheme reserves 30% of government annual procurement for SMEs (NDP8, 1998). In 1982, the Financial Assistance Policy (FAP), which was a generous non-repayable grant scheme, superseded the Local Preference Scheme. Similarly, in 2002, the Citizen Entrepreneurial Development Agency (CEDA) succeeded FAP. CEDA is a partial repayable grant scheme designed specifically for citizen entrepreneurs in the SME sector. Thus, since the introduction of these schemes, Botswana has witnessed a continuous growth of SMEs. To date, SMEs are an integral component of the economic landscape in Botswana.

3.7.1 SMEs: Definitional issues

The term SME embraces a wide range of definitions and measures. The definitions used by each country are depicted in table 3.1 below. According to the Organization for Economic Co-operation and Development (OECD) who have undertaken one of the most authoritative and comprehensive studies on SMEs, the most common definitional basis is employment; in general, an SME has less than 500 employees although many countries use a lower cut off, say 300 or 100 employees (OECD, 1997: 23). Some countries use different definitions for manufacturing and services SMEs, with the latter usually defined to be smaller. Some countries distinguish between autonomous SMEs and those connected to a larger enterprise or group, or identify an SME in terms of management structure. Further, some Asian countries differentiate SMEs on the basis of whether or not they are owned by local people. Finally, statistical definitions can differ from those used for policy implementation purposes; a firm with 600 employees may not be regarded as an SME for statistical purposes and yet still be able to gain access to SME-targeted support schemes. Clearly, while SME definitions use essentially the same criteria, they are country specific. Consequently, the different definitions make it difficult to produce an exact definition and valid comparisons of results across borders.

Table 3.2 Country-specific definitions of SMEs according to various criteria

Country	Official Definition	Criteria
Australia	Manufacturing: Small enterprises = <100 employees Services: Medium enterprises = < 20 employees	Employment.
Belgium	Annual staff average of 50 employees. Annual turnover (VAT excluded) ECU- 4.2 million Balance sheet total of ECU 2.1 million	Employment. Assets.
Greece	Small enterprises: 0 – 49 employees. Medium enterprises: 50 – 500 employees.	Employment.
Portugal	< 500 employees. < ESC 2400 million in sales (value for 1993) Is not controlled (more than 50 %) by any company nor does it hold over 50% of any other company	Employment.
Malaysia	Varies < RM 2.5 million and 75 employees	Share holder funds. Employment.
Singapore	Manufacturing: < $ 12 million fixed assets. Services: < 100 employees.	Fixed assets. Employment.
Thailand	Labour intensive sectors: < 200 employees Capital-intensive sectors: < 100 employees.	Employment. Capital.

Source: Adapted from OECD country studies (Volume 2); National Statistics

3.7.2 Definitions of SMEs used in Botswana

The Botswana Government recognising the vital role played by SMEs in helping achieve industrial and economic development objectives and the numerous problems faced by SMEs, set up in May 1997 a private sector led task force to address comprehensive SME issues and steer the development of this sector. The task force produced what now constitutes one of the most authoritative documents on SMEs in Botswana, the Task Force Report on SMMEs (Task Force, 1998). More importantly, it segmented SMEs into three distinct categories. Accordingly, the enterprises are defined as:

1. *Micro-enterprises*: less than six workers including the owner and an annual turnover of between P60 000. According to the Task Force Report (1998), there are approximately 50 000 micro-enterprises operating in Botswana. Approximately 70% are located in rural areas; some 65% were involved in trading, 25% in manufacturing and 10% in other sectors. Approximately 75% of the businesses are owned by women, lack formal registration and operate from residential premises.

2. *Small enterprises*: less than 25 employees and an annual turnover between P60 000 and P1 500 000. According to Task Force Report (1998), there are at present some 6000 small enterprises active in Botswana, of which about 80% are located in urban areas. Approximately 40% of the small enterprises are in the service sector, 20% in manufacturing, 16% in retailing, 10% in transport/distribution, 6% in construction and 8% in agriculture.

3. *Medium-size enterprises*: less than 100 employees and annual turnover of between P1 500, 000 and P5million. The SMME Task Force Report states that there are approximately 300 medium-sized enterprises currently operating in Botswana, with the majority involved in some form of manufacturing. Many medium-sized businesses have no particular need for government assistance, but others face constraints that can be alleviated through targeted support measures (SMME Task Force, 1998).

Clearly, Botswana's SME definitions are based on annual turnover (sales) and the number of workers (employees). The Task Force espoused the view that a strict definition is not really important except when an eligibility threshold is required to process various incentives and other promotional and assistance schemes. Further, the SME sector is extremely diversified. At one end of the spectrum is the micro-enterprise sector often referred to as the informal sector, which is made up of entities that employ one or two persons, including the owner. Their focus is most often geared to the small locality or even small area in which they are located. Small enterprises have a somewhat broad scope and may operate on a more structured basis. Some have established links with medium-sized firms as their market for goods or services. Medium-sized firms tend to have a developed a more outward looking approach to market their products or services, and often look beyond their country's borders to seek new markets.

3.7.3 Role of SMEs in the economy of Botswana

The exact contribution of SMEs to the gross national output (GNP) is extremely difficult to quantify because of three reasons. First, the dearth of official statistics constitutes the main impediment in assessing the overall contribution of SMEs to the economy. Second, the sparse existing statistics tend in most cases to be incomplete, poorly recorded and scattered in various government ministries (Duncombe, 1999). Finally, an analysis of the few studies on SMEs (Daniels and Fisseha, 1992; IFS, 1993; Rempel, 1994; Briscoe, 1995) reveals that all report conflicting statistical figures about the size of the SME sector, thereby rendering meaningful assessment difficult.

Nonetheless, the Task Force on SMME (1998) estimated that there are approximately 56300 such businesses currently operating in Botswana, employing 125 000 people, including business owners. Based on a study on the role of SMEs in Botswana (Newell, 1996), the SME sector's contribution to the GDP was estimated at 30- 45%, while that of large firms was at 38-48% of the GDP. The task force report also suggests that SMEs, taken as a whole, account for 50% of the formal employment. However, because the sector is quite diverse, it necessary to assess the contribution of each sector separately. For example, the micro-enterprise sector plays a crucial role in peoples' efforts to meet basic household needs, disabled people and rural families to survive given that the formal economy is unable to absorb the increasing labour supply. As for small enterprises, there is ample evidence that their labour-absorptive capacity is high, their average capital cost per job created is lower than that of large enterprises and their technology innovation is vital. Medium-sized enterprises, for their part, are better placed to be outward-looking, given their size and structure, and can thus contribute to foreign exchange earning while creating jobs for skilled and semi-skilled workers.

Notwithstanding the above exposition on the role of SMEs, manufacturing sector illuminates a more revealing picture of the importance of SMEs. In the section that follows, we briefly examine the role played by this industry in Botswana's economic landscape.

3.7.4 The manufacturing sector in Botswana

The manufacturing industry occupies a central place in Botswana's strategy for development and is seen as the principal sector through which the twin goals of economic diversification and employment creation can be realised (NDP8, 1998). Manufacturing is vigorously encouraged and supported by government in order to lessen dependency on neighbouring South Africa. Over the past several years, industrial incentives have been provided to the sector. The incentive schemes have included FAP and the Selebi-Phikwe Regional Development Project (SPRDP). In 1996, government declared manufacturing eligible for a 15% rate of corporate income tax. As a result of these incentives, coupled with Botswana's favourable investment climate, industrialists from various parts of the world were attracted. A wide variety of goods are manufactured for both domestic and export markets. These products include canned products, electronic and electrical items, leather goods, textile garments and engineering products. The manufacturing sector contributes approximately 18% of the total export earnings of the country and employment created by this sector has already reached 24000 (BEDIA, 2003). In contrast to other industries, SMEs dominate the manufacturing sector. Manufacturing firms make up

8.6% of the total number of enterprises trading in Botswana and the vast majority of the firms are concentrated in the two cities of Francistown and Goborone. The manufacturing sector relies heavily on imported raw materials, and these come from as far afield as India. The importation of raw materials is made possible by the strong Pula, one of the strongest currencies in the region (BEDIA, 2003).

In short, the manufacturing industry has been identified as an alternative engine of growth that can help to diversify the economy of the country to reduce over-reliance on the mineral sector. Although the industry does not contribute most significantly to the GDP, it is nonetheless critical for its employment creation and economic diversification potential.

3.7.5 Problems and constraints facing SMEs in Botswana

Notwithstanding the vital role SMEs play in the economy of Botswana, the SME sector as a whole faces a myriad of problems: low survival rates, lack of access to finance, shortage of entrepreneurial skills, bias of the education system against self-employment, globalisation, lack of business start-up training, shortage of business premises, lack of information on government assistance programmes, lack of marketing skills (SMME Task Force, 1998).

It is instructive to examine three of these problems in order to illustrate how they actually affect the SMEs.

3.7.5.1 Survival rates of SMEs

Existing evidence suggests that there is a high failure rate among business start-ups in Botswana (Briscoe, 1995. A study by the Southern African Development Community (SADC, 1997) suggests that half of the newly established SMEs in all the SADC countries go out of business before the end of their fifth year of operation. Of those that survive, most do not grow. The numbers that succeed in graduating from micro-to small are less than 1% of all the new start-ups. Similarly, the Task Force Report on SMEs estimates that as high as 80-85% of enterprises will disappear within five years of start-up. However, Duncombe (1999) suggests that the overwhelming majority of micro-enterprises do not disappear but also paradoxically do not grow. They survive because the owners have no alternative or other potential source of income.

3.7.5.2 Lack of access to finance

According to the SMME report, most of the business representatives maintained that the main problem facing small and micro-enterprises in Botswana was a lack of access to finance. Micro- enterprises in particular identified finance as a major constraint to start-up. Other finance-related problems include a lack of information on sources of finance, inadequate risk capital, lack of collateral, and complicated lending procedures.

3.7.5.3 Shortage of business premises

A lack of premises has been another major constraint to micro and small enterprise creation. In a Small Scale Business Profile Survey conducted by the Integrated Field Services (IFS, 1994) 76% of those interviewed were carrying out their manufacturing businesses on residential plots. A similar statistic emerged from a survey of micro-small businesses (Daniels and Fisseha, 1992), which estimated that 70% of the respondent enterprises operated from residential premises.

3.7.5.4 Globalisation

Globalisation is a fuzzy or imprecise concept. However, here it is used to refer to an evolving pattern of cross-border enterprise activities; these can include international investment, trade and strategic alliances for product development, production, sourcing and marketing. International activities enable firms to enter new markets, to exploit their technological and organizational advantages and to reduce business costs and risks (OECD, 1997). The globalisation of economic activity affects the development of SMEs mainly in two ways:

For some, it opens up new opportunities for outward expansion and growth. Changes in communications, technology, and the organisation of production have all favoured this process, and mean some successful SMEs can compete internationally.

For a much larger group, inward globalisation poses new competitive challenges or indeed threats from abroad. For example, recent globalisation pressures dictate that SMEs make significant changes to improve factors such as output quality, cost competitiveness and management practices in order to survive.

In Botswana, recent years have seen moves to regulate the economy with a view to make it internationally competitive and attract the much-needed foreign direct investment (FDI). In so doing, the country's SME population has been exposed new international threats: Botswana's small domestic market has been flooded with cheap Chinese made goods especially garments. This phenomenon has the effect of undermining the domestic market as these products are sold at comparatively low prices, thus severely undercutting competitors. Also, the growing influx of cheaper imports exacerbates the intensely competitive environment.

3.8 SME initiatives

Cognisant of the magnitude of the numerous problems bedevilling the SME sector and keen to use SMEs as an economic diversification tool, the Government of Botswana has vigorously undertaken a wide range of key initiatives designed to create an overall conducive environment for SMEs to flourish: formulation of SME Policy, tax reforms, deregulation, establishment of the Botswana Enterprises Development Authority (BEDIA), introduction of Citizen Entrepreneurial Development Agency (CEDA), bilateral trade pacts: the Africa Growth Opportunity Act (AGOA) and human resource development. In the following sections, we discuss each of these initiatives.

3.8.1 SME Policy

Until 1999, Botswana like most of its SADC peers did not have clear Government policies aimed at articulating SMEs needs and creating an enabling environment for a vibrant SME sector. However, the situation changed as a result of the Task Force on SMME in 1998, which recommended the establishment of an overarching SME policy better known as the Policy on Small Medium and Micro-enterprises in Botswana of 1998. The policy provides an overall framework for the development of SMEs in Botswana, including guiding principles and objectives for SME development. It also identifies specific programmes and initiatives of government in support of SME development and institutional arrangements for the co-ordination, implementation and follow-up activities. Essentially, it constitutes a pre-condition for the actualisation of the government industrial strategy regarding the role of SMEs. Since, the adoption of the SME policy by Government, there has been a surging flurry of SME activity.

3.8.2 Tax Reforms

Extensive changes were introduced to Botswana's taxation rates in 1995, to enhance the country's incentives for domestic and foreign investment, improving international and regional competitiveness, and increasing disposable income of individual taxpayers. Further changes to the tax regime were made in 1997 (SADC, Review, 2003). Top personal marginal tax rates were brought back in line with the corporate rate of 25 per cent. Manufacturing operations are taxed at the rate of 25 per cent. In 2002, government introduced value added tax (VAT). Upon its introduction, VAT generated a dramatic price increase and inflation reached double figures. One direct consequence was the hike in prime lending rate that was raised from 14.25% to 14.75% (*The Botswana Guardian*, 2002).

3.8.3 Exchange liberalisation

In view of the country's stable macro economic environment, healthy foreign exchange reserves and sound banking system, all remaining exchange controls were abolished in March 1999. However, Government put in place institutional structures and complementary fiscal and monetary policies and instruments to manage an exchange control free environment. In line with this liberalisation policy further measures were taken to improve the country's competitiveness. For example, the privatisation policy and the national competition policy were approved in 1999 and 2001 respectively. Both instruments are perceived to be vital adjuncts of international competitiveness

3.8.4 BEDIA

Formed by an act of parliament in 1997, the Botswana Export Development and Investment Authority (BEDIA) is an autonomous private sector-led organisation mandated to encourage, promote and facilitate the establishment of export-oriented enterprises and selected services which result in economic diversification, rapid economic growth and creation of sustained employment opportunities. BEDIA is also entrusted with the task of identifying market outlets for locally manufactured products and construct factory buildings for setting up of manufacturing enterprises.

Further, BEDIA not only works closely with the Government to ensure that the country has a conducive investment climate but also acts as the first point of contact for potential investors hence the name "The Friend of the Investor". In specific terms, BEDIA performs the following services:

- Identifies investment opportunities in the country;
- Provides investment advice;
- Organises visits and meetings between economic operators in the country and potential investors;
- Provides both economic and trade statistics;
- Assists in obtaining pre-investment clearances (work and residence permits, licences etc);

- Organises fairs, exhibitions and contact missions, to market Botswana products.

3.8.5 CEDA

Following a successful reformulation of the Financial Assistance Policy (FAP) and its consolidation with the SMME scheme, Government introduced the newly established CEDA in July 2002. Under this scheme, citizens are assisted through highly subsidized loans, training, monitoring and mentoring. The key emphasis in the scheme, which covers all sectors of the economy, is to encourage broad based development, that is, for assisted entrepreneurs to develop supporting mechanisms to achieve sustainability and lessen dependence on government assistance over time. The introduction of CEDA generated a great deal of entrepreneurial fervour among business owners and even the rank and file citizens because of the low-cost loans it guaranteed. Two months after its inception, 265 applications worth P158.8 million had been approved while 463 applications amounting to P175 million had been turned down (Botswana, Guardian, 2002). Recently, CEDA launched a venture capital fund (VCF) to relieve equity capital constraints faced by citizen businesses (BOPA, 2003). The main objective of the VCF is to help businesses grow by injecting capital where traditional forms of finance, such as commercial banks, are not likely to participate. Overall, the scheme received an overwhelming response, as it was perceived a timely window of opportunity. By the end of 2003, CEDA had approved a total of P592million (approximately £75m) for 1053 projects and 13 percent of the projects were in manufacturing (BOPA, 2004)

3.8.6 AGOA

Signed in May 18, 2000 by the then US President, Bill Clinton, AGOA is a trade pact that specifically targets sub-Saharan African countries (SSA). Among its major elements are:

- Create a comprehensive trade and investment strategy for those countries in SSA who are committed to economic reform.
- Helps countries make the transition to economic independence and self-sufficiency without jeopardizing humanitarian assistance.
- Negotiate a US-African Free Trade Area by 2020 (Akinkugbe, 2003).
- Create a US-Africa Trade and Investment Partnership, which would provide $7 billion in private sector financing over five years support for SMEs and establish a $32 billion textile and apparel initiative.

By virtue of her membership to AGOA, Botswana enjoys duty-free and quota-free access to the US market for almost all its products exported to the US. In short, AGOA provides Botswana exporters with opportunities to expand their businesses, create new jobs and contribute to the country's efforts to develop its manufacturing base and diversify the economy. Aside from AGOA, Botswana is also a member of several other multilateral trade organisations: World Trade Organization (WTO), EU, SADC, Southern African Customs Union (SACU) and Cotonou Agreement (formerly Lome Convention). Also, this membership confers the country duty-free access to their respective markets, some of which are lucrative. Consequently, SME sector is able not only to compete in the global arena but also to realistically contribute to the overall objectives of economic diversification.

3.8.7 Human resource training

Botswana's strategy for education and training into the 21st Century, as outlined in the Revised National Policy on Education, includes the development of a responsive education and training system that is in line with the dynamic nature of economic growth. The main thrust is curriculum diversification through the introduction of basic commercial and technical courses as core subjects, as a way of preparing school leavers for the job market. Botswana's literacy rate is about 68.3 percent (1993) (see table 3.1 above). The government's objective of achieving universal primary education has almost been reached due to a large increase of educational provisions during the last decade. In the 2002 Budget, P200 million was allocated to Primary School construction. Primary education is free and school fees for state secondary schools were abolished in 1988 (NDP8, 1998). There are several fee-paying English medium primary and secondary schools.

Tertiary education is provided mainly at the University of Botswana, which was established in 1982 following the dissolution of the University of Botswana, Lesotho and Swaziland (UBLS). The University offers several degree and diploma courses and has a branch in Francistown. It also provides training of library and information professionals, which we describe in some detail below.

Since it establishment in 1979, the Department of Library and Information Studies (DLIS) at the University of Botswana has played a key role in the education and training of library and information professionals nationally, regionally and internationally. In 1996, it was rated a 'UNESCO centre of excellence in training of library and information professionals'. The students have come from both near and far: neighbouring countries such as Swaziland and Lesotho and Cameroon and Sudan. Over the years, the Department has run a suite of programmes ranging from certificate to PhD, although the latter is a new entrant. Overall. The curriculum is slanted towards traditional library studies courses (e.g., cataloguing and classification, management of information centres and services, user studies, etc.) that are sought by the vast majority of the market, for example, national, public, and university and college libraries. Information management, Information technology, business information and knowledge management are comparatively very recent additions to the list of courses offered. Even so, they are largely offered as options. Consequently, the bulk of the Department's products are ill equipped in the areas of business information and knowledge management (see Jorosi, 2001 for a detailed of discussion of education and training of library professional in Botswana).

3.8.8 The business environment

As discussed above, the Botswana government has undertaken a set of diverse initiatives with two key objectives: the broadening and strengthening of the foundation for economic diversification and creating a favourable climate for private enterprise. The ensuing business environment is a uniquely attractive destination for investment in Southern Africa. According to BEDIA (2003), Botswana's investment climate has helped to attract industrialists from various parts of the world, namely; South Africa, France, Belgium, China, India, the United States, the United Kingdom, Sweden, Mauritius, and South Korea. Some of the major features of this business environment are:

- Political stability.
- Fiscal and monetary policies continue to focus on maintaining economic growth and low inflation.
- Botswana has received the highest credit rating by Standard and Poor's and Moody's Investor Services.
- No foreign exchange controls including free repatriation of profits, dividends and capital.
- Low tax regime-corporate is only 15% for manufacturing companies and 25 % for others.
- Corruption is low according to Transparency International
- Good infrastructure.
- New opportunities have opened through AGOA, which allows quota and duty free entry of goods, manufactured in Botswana to the US market.
- Ready access to the EU market under the Cotonou Partnership Agreement-products manufactured in Botswana enter this market duty-free and quota-free.
- Ready access the Southern African Customs Union (includes Botswana, South Africa Namibia, Lesotho and Swaziland), which allows free movement of goods among member states.
- Easy access to the Southern African Development Community market comprising 14 countries through the SADC Trade Protocol.

3.8.9 Corroborations

That Botswana has created a favourable enabling environment is not in dispute. On the contrary, considerable evidence from a wide range of reputable of international sources confirms Botswana's credentials as an attractive investment place. It is instructive to examine a few examples below:

In June 2003, the World Economic Forum ranked Botswana as the leading nation among 21 African economies. This ranking was based on the quality of public institutions, corruption-busting efforts and adherence to contracts and the rule of law.

Likewise, in August 2003, the United Nations Economic Commission for Africa (ECA) rated Botswana favourably. In its 2003 annual report titled *Accelerating the Pace of Development* ECA rated Botswana top of the list of five African countries that have made progress in putting in place development policies that promote economic growth while reducing poverty. The ECA Index integrates data from the broad areas or clusters: macro-economic policies, poverty reduction and institution-building policies. The macro-economic policies cluster covers monetary, fiscal, exchange rate and macro-economic policy co-ordination as well as financial sector, product market and sectoral policies.

In October 2003, Transparency International (TI), for the second consecutive time ranked Botswana as the least corrupt, being one of only three Medium Income countries to achieve a score of above five and also the only African country to score above five.

Finally Dunn and Bradshaw's (D&B) Country Risk Services awarded Botswana a DB2c rating; considered a low risk, as Botswana was second to Mauritius in Africa. D&B are a company of international repute with a track record of excellence spanning 180 years (D&B, 2003), and regularly publishes country-specific risk analyses, i.e. the risks of cross-border cash flows, investment trade etc. Their recent global analysis is summarised as D& Country analysis below in table 3.3

Table 3.3 Dunn and Bradstreet Country Risk Indicators

Luxembourg	DB1b	Kuwait	DB2a	Cote d'voire	DB5a	Argentina	DB6a
Australia	DB1c	Malta	DB2a	Gabon	DB5a	Azerbaijan	DB6a
Austria	DBIc	Singapore	DB2a	Guatemala	DB5a	Cambodia	DB6a
Canada	DB1c	Spain	DB2a	Iran	DB5a	Ecuador	DB6a
Denmark	DB1c	Chile	DB2b	Romania	DB5a	Honduras	DB6a
Finland	DB1c	Greece	DB2b	Syria	DB5a	Nepal	DB6a
France	DB1c	Honk Kong	DB2b	Kazakhstan	DB5b	Venezuela	DB6a
Ireland	DBIc	Italy	DB2b	Libya	DB5b	Yemen	DB6a
Netherlands	DB1c	Japan	DB2b	Pakistan	DB5b	Nigeria	DB6b
Norway	DB1c	Mauritius	DB2b	PNG	DB5b	Paraguay	DB6b
Sweden	DB1c	Portugal	DB2b	Turkey	DB5b	Russia Fed.	DB6b
Switzerland	DB1c	Quatar	DB2b	Zambia	DB5b	Sudan	DB6b
UK	DBIc	Botswana	DB2c	Bangladesh	DB5c	Ukraine	DB6b
US	DB1c	Slovenia	DB2c	Bolivia	DB5c	Kyrgyz Rep.	DB6c
Belgium	DB1d	Taiwan	DB2c	Cameroon	DB5c	Macedonia	DB6c
Germany	DB1d	Tunisia	DB2c	Indonesia	DB5c	Nicaragua	DB6c
Iceland	DB1d	Cyprus	DB2d	Sri Lanka	DB5c	Albania	DB6d
New Zealand	DB1d	Hungary	DB2d	Algeria	DB5d	Angola	DB6d
UAE	DB1d	Morocco	DB2d	Ethiopia	DB5d	Bosnia	DB6d
		South Africa	DB2d	Fiji	DB5d	Iraq	DB7
		Trin. & Tob.	DB2d	Malawi	DB5d	Zimbabwe	DB7

Source: Adapted from D&B Country Risk Indicators, October 2003.

As mentioned earlier, D&B's Country Risk Indicator provides a comparative, cross-border assessment of the risk of doing business in a country. Essentially, the indicator seeks to encapsulate the risk that countrywide factors pose to the predictability of export payments and investment returns over a time horizon of two years. The risk indicator comprises a composite index of four over-arching country risk categories:

Political risk – internal and external security situation, policy competency and consistency and other such factors that determine whether a country fosters an enabling business environment;
Commercial risk – the sanctity of contract, judicial competence, regulatory transparency, degree of systematic corruption, and other such factors that determine whether the business environment facilitates the conduct of commercial transactions;

Macroeconomic risk- the inflation rate, government balance, money supply growth and all such macroeconomic factors that determine whether a country is able to deliver sustainable economic growth and a commensurate expansion in business opportunities;

External risk – the current account balance, capital flows, foreign exchange reserve size of external debt and all such factors that determine whether a country can generate enough foreign exchange to meet its trade and foreign investment liabilities (D&B, October, 2003: 6).

The D&B risk indicator is divided into seven bands, ranging from DB1 through DB7. Each band is divided into quartiles (a-d), with an "a" designation representing slightly less risk than a "b" designation and so on. Only the DB7 is not divided into quartiles. For the sake of brevity and contrast, we have only presented lowest risk (DB1), Low risk (DB2), Very high risk (DB6) and Highest risk (DB7) respectively. The bulk of the countries not included belong to the slight risk through high-risk bands.

Indicator Meaning and Explanation

DB1 Lowest risk – Lowest degree of uncertainty associated expected returns, such as exports payments and foreign debt and equity servicing.

DB2 Low risk – Low degree of uncertainty associated expected returns. However countrywide factors may result in higher volatility of returns at a future date.

DB6 Very high-risk - Expected returns subject to large degree of volatility. A very high-expected return is required to compensate for the additional risk or the cost of hedging such risk.

DB7 Highest risk - Returns are almost impossible to predict with any accuracy. Business infrastructure has in effect, broken down.

Other equally good attestations about the business environment come from the Vancouver based Fraser Institute and Standard and Poor's. The Fraser Institute ranked Botswana 26th on the Economic Freedom of the World. Botswana received a score of

7.1 out of 10 while Mauritius topped the SADC region at 20th with a score of *7.3*. Similarly, Standard and Poor's, a premier source of real-time web-based credit ratings organization that has been a leader in credit analysis for more than 140 years, warded Botswana the following local and foreign currency ratings A+/*Stable/-1*and *A/Stable/A-1* respectively (Reuss, 2002).

In November 2003, Moody's Investors awarded Botswana an *A2 Prime-1* foreign currency rating and stable outlook. Their report noted Botswana's enduring social and political stability and the prudent utilization of its mineral endowment that has led to sustained growth rates and rapid expansion of infrastructure.

3.9 Contemporary Challenges

Aside from having to grapple with economic diversification and having a favourable SME environment, Botswana faces three major challenges: HIV/AIDS pandemic, unemployment and rampant poverty. A detailed discussion of these challenges follows.

3.9.1 HIV/AIDS Epidemic

Botswana is one of the countries worst afflicted by the HIV/AIDS scourge. In fact, recent UNAIDS statistics suggest that it has the world's highest known rate of HIV/AIDS infection (UNAIDS, 2003). According to Government figures, more than one in 3 or 35 percent of the country's adult population are infected with the HIV virus and the prevalence rate in pregnant women aged 15-49 years increased from 18.1% in 1992 to 38.5% in 2000 (CSO, 2003). The disease is estimated to have dramatically reduced life expectancy from approximately 67% to 42% (UNAIDS, 2003). Other than reducing the country's skilled labour force through death, and having serious social and economic impact on the lives of individual families, the other negative effect is the increase in morbidity that reduces the productivity labour in the medium and long term. There are also budgetary costs of containing the disease and caring for the sick, for which resources could have been for development (NDP 8, 2002). Further, through its ravages, the AIDS epidemic has also left a trail of some 80 000 orphans (CSO, 2003). In short, the disease poses the biggest challenge that Botswana has ever faced since independence some thirty-seven years ago. Its consequences already are beginning to set in; it threatens to reverse the socio-economic gains made so far.

In response, the Botswana Government has adopted a multi-pronged strategy aimed at halting and reversing the spread of the scourge. This includes among other initiatives, the establishment of HIV/AIDS sectoral committees, national awareness and education, partnership with non-governmental and UN agencies and the administration of anti-retroviral drugs (ARV). At the heart of this strategy is the National AIDS Co-ordinating Agency (NACA), which is headed by a senior medical doctor and reports directly to the President Mr Festus Mogae, who has been at the forefront of the AIDS war. For example, NACA works in tandem with a host of non-governmental bodies such as Botswana-Harvard AIDS Reference Laboratory, Botswana Network for People Living with AIDS (BONEPA) and the Bill and Melinda Gates Foundation to spearhead counselling, education and research. Also, NACA has been actively involved in the first sub-Saharan implementation of widespread distribution of ARV drugs through the national health system.

3.9.2 Unemployment

Despite the rapid economic growth rate that the economy experienced by Botswana, unemployment that largely affects the youth (school leavers) and the unskilled workforce has remained a problem. Mining, which is capital intensive, provides only about 13000 jobs (CSO, 2003). According to Siphambe (2003), between 1991 and 2001, 73,447 or 2% additional jobs were created in Botswana, whereas the total labour force was growing at an average annual growth of 2.5%. As a result, unemployment was increasing during the past decade or so, reaching 21.6 in 1994 and 25.1 % in 1998 (see table 3.4 below).

Table 3.4 Unemployment in Botswana

	Unemployed	Employed	Labour force	Unemployment rate%
1991 Census	61 625	379 938	441 293	13.9
1993/94 HIES	107 723	391 804	499 527	21.6
1995/96 LFS	94 528	345 405	439 033	21.5
1998 DS	115 738	345 405	461 108	25.1
2000 MIS	90 729	483 432	574 161	15.8
2001 Census	109 512	453 385	562 897	19.5

Source: MFDP Annual Economic Report, 2003.

To reduce the spiralling unemployment, Government has undertaken a number of steps that include taking advantage of trade agreements like AGOA, WTO and EU discussed earlier. Also, the introduction of CEDA is designed to attract entrepreneurs who will in turn create jobs and thereby contributing to sustainable employment. Furthermore, the education system is being reoriented to give vocational subjects priority so that graduates could be equipped with business skills that will enable them to venture confidently into their own businesses.

3.9.3 Poverty

Despite the fact that Botswana has amassed a cornucopia of accolades as an economic success story, a model of good governance or shining example of multi-party democracy, extreme poverty is rampant in Botswana. According to a study on *Poverty and Poverty Alleviation in Botswana* conducted in 1997, 47% of the population lived in below the poverty datum line, despite the abundant diamond resources that have supported real per capita GDP economic growth averaging more than 7% over the past 30 years (SADC, 2003). In essence, income distribution is sharply skewed as reflected in a 47% poverty rate. However, the poverty situation presents a major concern to Government because it is an anathema to the lofty ideals of *Vision 2016*, Botswana's long-term strategy for a poverty-free Botswana. Against this background, Botswana has adopted a multi-pronged poverty reduction strategy that aims to increase national income and plough it back to provide support for livelihood activities, human development activities and targeted social safety nets. Accordingly, in addition to general employment creation, Government has put in place direct social protection schemes that include among others the *Destitute Policy*, the *Primary School and Vulnerable Group Feeding Programmes*, the *Labour Intensive Public Works Programme* and the *Drought Relief Programme*. A second category of this strategy is the direct productive support schemes, which include Arable Land Development Programme (ALDEP) and CEDA. Despite the gravity of these challenges, among the developing countries, Botswana is best placed to economically and fiscally to fight the AIDS crisis without significantly eroding its sovereign credit worthiness. Notwithstanding the efforts expended in confronting the challenges, not much has been achieved. The HIV/AIDS epidemic in Botswana is now being recognised by the country's leadership as one of the most critical challenges to the nations future. While some successes have been made in the 18- year national response, they have not been able to keep pace with the spread of the epidemic. Likewise, poverty and unemployment are becoming an embarrassment to the country with abundant resources and budget surpluses (e.g. per capita GDP of US$3,300,). Income distribution remains sharply skewed as reflected in a 47% poverty rate and the number unemployed graduates is on the rise. Taken as a whole, these challenges are an anathema to the attainment of *Vision 2016's* objectives (Botswana's long-term strategy for a compassionate, just and caring nation).

3.10 Chapter Summary

The purpose of this chapter has been to provide a detailed survey of the geo-politico and socio-economic environment in which SMEs in Botswana operate. Skewed towards economic history, this chapter has sketched the dramatic economic transformation experience by Botswana over the past 37 years. Also, the chapter traced the economic diversification strategy pursued for sustainable economic growth. In so doing, the chapter described: (1) the evolution and development of SMEs in Botswana; (2) the manufacturing industry; and (3) the resultant enabling environment created by government. The chapter concluded with an examination of some of the challenges confronting the macro-environment in which the objects of our study are situated.

Overall, this chapter has demonstrated that Botswana, with its conducive business environment albeit a small economy offers a rich setting for the investigation of information needs and information seeking behaviours of SME managers. First, the country has tightly integrated into regional and global trade and financial systems but the small and open market economy is however not insulated from the pressures of globalisation and other competitive forces (e.g., a number of multinationals have entered the economy, asserting pressures on SMEs to either sink or swim in the emerging ocean of competition). That is, product market competition has gown from modest to increasingly intense and numerous entrepreneurial firms compete for a slice of the market share. Second, government as an economic strategy vigorously encourages SMEs in order to achieve the twin objectives of employment creation and diversification. To this end, there are citizen empowerment schemes that seek to attract investors into the business sector. As a result, there are many individuals that are keen to make forays into the business 'jungle'.

Having provided a detailed description of the key features in the empirical setting, the next chapter focuses attention on the tactics of enquiry employed to gather empirical data for our study.

Chapter 4 – Methodology and conduct of study

4.0 Introduction

The aim of this chapter is to review a range of methods that have been used in previous and related literature to investigate information needs and information seeking behaviours of managers in library and information science and comparative disciplines. To a large extent, research methodology may usefully be compared to the foundation upon which the rest of the research is built. It is fundamentally and intricately linked to the subject matter under investigation. This requires that, in an attempt to arrive at an appropriate research approach, the investigator must consider very carefully the available repertoire of methods at her or his disposal. In library and information science, selecting an appropriate method assumes an added importance for three main reasons.

First, the field of user studies has been afflicted by methodological shortcomings. For example, Sandstrom and Sandstrom (1995) lament what they perceive as the abuse of qualitative methods while Wang (1999:83) presents a catalogue of frequently missing elements in reported empirical studies. Some researchers suggest that methodological problems contribute to the pervasive dissonance in findings of numerous studies (Westbrook, 1993; Gorman, 1995).

Second, over the past two decades or so, most scholars in social and behavioural studies have questioned the sole reliance on a single scientific method (monomethod research) in general, and in entrepreneurial studies in particular. In fact, some of these scholars express a caveat that it is foolhardy to rely on one method regardless of its merits. Instead, most researchers in these disciplines now use multiple methods or a combination or convergence of different methods (triangulation) to collect data on the same phenomenon (Jick, 1979; Tashakkori and Teddlie, 1998). Denzin, a foremost advocate of triangulation argues that a combination of different methodologies to simultaneously study the same phenomenon ensures the validity of our results 'when two or more distinct methods are found to be congruent and yield comparable data' (Denzin, 1978: 123). Because this tradition towards multi-methods in the research arena adds complexity to the researcher's choice of methods, it becomes necessary and instructive that the choice of appropriate data collection techniques be preceded a review of some of the most frequently used data gathering strategies in information needs research.

Finally, for INSU studies, which are receiving increased attention by researchers in information seeking and use, methodology is paramount, and particularly the application of multiple qualitative methods predominates (Kuhlthau and Vakkari, 1999; Vakakari, 1997; Fidel, 1993). In fact, Wang (1999) suggests that this is the methodological state of the art in user behavioural research. The surge in interest in qualitative methods is probably a reaction to the perceived limitations of the use of positivistic methods that dominated user studies from the late sixties till the early seventies. Against this overall background, it is therefore a consequent necessity that we devote proportionate attention to the mechanics of selecting appropriate methods for this study.

This chapter is organised as follows: first, we discuss with examples, five of the most frequently used methods in diagnosing managerial information needs: dairy, observation, interview and questionnaires. Second, we provide the rationale for selecting our chosen data collection strategies for this research. Third, we describe in detail our action plan for the empirical phase of the research: a tripartite plan of pilot study, survey and interviews; including concrete steps for instrument development and sample selection. Finally, we conclude with a brief chapter summary.

4.1 Quantitative and Qualitative methods

In social sciences research, a bewildering array of techniques used for data collection is conventionally divided into two broad classes: qualitative and quantitative. In doing so, this schema crucially permits researchers to determine whether or not a piece of research relies on one method, either qualitative or quantitative or on a mixture of both. Given the paramount importance of methods in ISIC studies as exemplified by pervasive calls and criticisms in the literature (see, introduction 4.0 above), it is appropriate and opportune as a starting point to examine these two categories of research methods. Another virtue of this approach is that it allows us to position the methods utilised in this study into their appropriate milieu. In the following sections, we examine each of these categories in turn:

4.1.1 Quantitative methods

Quantitative research in its extreme form adopts a deductive approach. Its principal concern is identifying broad patterns, testing and refining theory and making predictions (Ragin, 1994). One of the key characteristics of quantitative research is the demonstration of causality. In survey research, a component of quantitative, causal relationships have to be inferred whereas, in experimental research, causal relationships between variables are more easily readily established because of the control that the investigator has over the dependent and the independent variable. Quantitative methods are also characterised by generalisations. Findings can be generalised and extended beyond the boundaries of the sample being investigated. The analysis undertaken in quantitative research is usually static involving the exploration of relationships between variables (Eisenhardt, 1989). Quantitative methods studies tend to give less attention to context in contrast to qualitative research methods. For example, one would hardly obtain a feel for the organizations under investigation in quantitative studies. As McGill's Professor Henry Mintzberg suggests, quantitative research would not be an appropriate method for theory building research because 'creative insight seems to require the sense of things-how they feel, smell, seem' (Mintzberg, 1979: 34).

4.1.2 Qualitative methods

Qualitative research is an all-embracing term that refers to an array of interpretive techniques. Filstead (1970:6; cited in Byrman, 2001) provides a typical description of qualitative research.

> Qualitative research methods refer to those research strategies, such as participant observation, in-depth interviewing, total participation in the activity being investigated, fieldwork, etc., which allow the researcher to obtain firsthand knowledge about the empirical social world in question. Qualitative methods allow the researcher to get close to the data thereby developing the analytical, conceptual and categorical components of explanation from the data itself-rather than from the preconceived, rigidly structured and highly quantified techniques that pigeonhole the empirical social world into operational definitions that the researcher has constructed.

Qualitative methods attempt to interpret significance, exploring diversity and perception in the process of developing theories (Croom, 1996 and Harrison, 1997, reported in Oke, 1999: 123). In contrast to quantitative research method, which is driven by a set of prior concerns, the enquirer in qualitative research should be the determinant and source of what is relevant and important in relation to the domain being investigated. Methods of data gathering in qualitative research include participant observation, open or unstructured interviewing and semi-structured interviewing which can be part of a case study.

The proximity of the qualitative researcher to the phenomenon being investigated can pose a limitation of this research method if not well managed as it has the potential to introduce bias into the results if there is undesired interference with the phenomenon being studied. Also, gathering and interpretation of data in qualitative research may be affected by subjective judgements. Thus, the reliability of the qualitative research method may be doubtful. Yin (1994) however, suggests the development of semi-structured protocols is a tactic that can significantly boost the reliability of qualitative research

On the whole, the distinction between quantitative and qualitative research approaches is clearly a rough one. This is largely so because qualitative research itself may involve quantification, such as counting procedures in investigations. Likewise, quantitative research such as the use survey questionnaires may include open ended and semi-structured questions, which seek qualitative evidence. Nonetheless, the dichotomy between qualitative and quantitative approaches is a useful one when one considers the need to create some degree of order in the mosaic of research methods.

In the next section, we turn our attention, in very detailed fashion to five research methods that have been utilized in information needs and seeking behaviour of manager *per se*.

4.2 Data collection methods on managerial information needs

Our discussion is limited to five methods: diary, observation, interview and questionnaire. Each of the methods is discussed in more detail below. Our decision to provide generous details is not intended to give the reader a tutorial on research methods but rather to expose the key characteristics of each method together with a small illustrative sample of classic studies that utilised the method. In doing so, the end objective is to uncover both strengths and limitations of each technique and thereby render each method amenable to better evaluation for appropriateness or otherwise to this study.

4.2.1 Diary approach

A diary, considered as a research tool, is a kind self-administered questionnaire (Robson, 2002). As such, it can range from being totally unstructured to a set of responses to specific questions. This method was pioneered by Carlson (1951) in his pioneering study of managers and perpetuated and refined by Burns (1954) and Copeland (1954), among others. Rosemary Stewart's study of 160 senior and middle managers in Britain is rated as the most extensive and the most useful of the diary studies (Stewart, 1967). (See Mintzberg, 1973 for Burns and Copeland citations and a detailed discussion of studies utilising the diary method). Gerstberger and Allen (1968), in a pioneering study of how engineers select information sources for problem solving, also employed the diary approach. Their subjects (engineers) kept 15-week records of the progress of their R&D projects and ranked information sources on the basis of their perceived accessibility, perceived ease of use, perceived technical quality and amount of previous use. Although appropriate for measuring how managers spend their time, the diary method is considered inappropriate for ascertaining information needs, where needs are not likely to arise as part of a regular pattern of events. Additionally, the diary places a great deal of responsibility on the respondent. Given that empirical evidence suggests SME managers are extremely busy people, with time constraints and that they are notorious for not responding to questionnaires, it is likely that they would resent the idea of having to record their information needs. On account of the above limitations, this method is not deemed suitable for this study.

4.2.2 Structured observation

According to Hale (1983), the term observation is more often seen in research preceded by an adjective such as participant, field, qualitative, direct or systematic (Hale, 1983:91). However, as a method used in information needs and information seeking behaviour research, it is commonly referred to as "structured observation" after Mintzberg (1967). It is a qualitative methodology in which an event or series of events is observed in its natural setting and recorded by an independent researcher. Mintzberg in his watershed study chose structured observation for his investigation into how managers spend their time and his detailed study of the work of managers has not only been invaluable but revolutionised how managerial work is conceived. For an excellent and detailed account of structured observation, Mintzberg's book, titled *The nature of managerial work* is by far the most instructive (Mintzberg 1973). Other equally relevant works include: Streatfield and Wilson, (1981) and Glazier (1985).

Several studies have employed this approach to gather data. Grover and Glazier (1984) adapted Mintzberg's method in a study of information needs of city managers. Their observations of what the managers did with their time enabled them to identify managerial roles played by contact. In a similar fashion, Grover and Achleitner (1985) combined observation with other methods to study the managerial environment of a large manufacturing organisation. According to the authors, the combination of methods allowed the researchers as outsiders to understand the verbal descriptions of the managers and to know what questions to ask to clarify what managers themselves did not know about their information needs. Wilson and Streatfield (1981) applied the method to investigate the information needs of social services departments in the United Kingdom. Mason (1984) adapted the techniques for understanding the emerging roles of information managers. Trott and Martyn (1987) too used a variation of the structured observation in their work on small firms. In a survey conducted from Suffolk Public Libraries, forty- three local firms were encouraged to approach the Research Officer directly for information so as to build up data on information use.

Notwithstanding its suitability and successful application in the above studies, structured observation has some obvious limitations: (1) the sample size is not generally accepted as representative enough to make the findings generalisable; (2) the analyst is heavily involved in the process about which she or he is collecting data and may therefore bias the findings (Hale, 1983); (3) the study is not replicable, and (4) requires long duration to observe subjects and respondents working in time-compressed environments like managers may not be predisposed to grant permission for observation. Additionally, the present research is exploratory in a country where a research culture is underdeveloped albeit nascent; therefore the idea of a researcher spending time within the offices of chief executive officers of SMEs may raise suspicions. Because of these drawbacks, the structured observation method is not considered a suitable approach for our data collection.

4.2.3 Critical incident technique

The critical incident technique was pioneered and popularised by Flanagan (1947) at the American Institute of Research. It was used to determine the critical requirements of the officers in the US Air Force, commercial airline pilots, research personnel in the physical sciences and traffic controllers (Flanagan, 1954). Applications of the critical incident technique by researchers in the information sciences date back to the early 1960s (Menzel, 1966). Menzel cites the year 1963 as the turning point in empirical research on the needs and uses of information by scientists and technologists. He attributed these advances in part, to a systematic application of the critical incident technique for collecting factual data about information requirements and uses.

In the medical context, some investigations have applied the technique to study information needs, such as Northup *et al.* (1983) who carried out a study to identify goals of information searching education for medical students and Moore's West *et al.* (1984) which used this technique to investigate the influence of context (urban and non-urban areas) on the information seeking behaviour of physicians. Brember and Leggate (1985) also used it to examine patterns of library use and to identify expressed information needs among a population of Oxford University and NHS staff and Timk *et al.* (1989) used it to address the information needs and seeking behaviour of primary health care physicians. The utility of the critical incident technique has also been demonstrated in the evaluation of the impact on decision-making (Rapp, 1989; Wilson *et al.*, 1989; Siegal *et al.*, 1992; Wood *et al.*, 1996). For a detailed discussion of the application of the critical incident technique in health informatics and all the citations above see, Abad-Garcia et *al.*, 1999: 219).

Likewise, the critical incident technique has also been widely used in the acquisition of managerial information (Aguilar, 1967; Keegan, 1974; Conyers, 1989; Choo, 1993). Keegan's research was seminal in this regard. Keegan (1974), using the following question, lucidly demonstrates the application of this technique to a managerial context:

> try to recall two recent specific instances within the past six months when you personally obtained and received external information, that is information which concerns events and circumstances outside your company which was important in your job or important to the company. (Keegan, 1974: 411).

Because the technique focused on the most recent instances of information acquisition behaviour being sampled, it made it easier for participants to recall two particular recent incidents that occurred within their work than to identify general information concerns. It also has the additional virtue of reducing participant interview time, contributing to a high response rate. Hewins (1990) suggests that the critical incident technique tends to be effective because it relates the use of sources to a given problem. It is inherently tied to the decision making process in a specific situation and defines the criteria used in source selection and system performance. One of the main problems associated with the application of this technique is the size of the population studied and the response rate. Since the technique cannot be used singly but relies on interviews, only samples can be interviewed resulting in the consequent low response rate.

4.2.4 The interview

Also referred to as 'asking' in Hale's categorisation of diagnostic methods of information needs (Hale, 1983), the 'interview' is a very familiar and time-honoured technique of gathering data in mainstream social sciences in general, and is invariably used either separately or in conjunction with questionnaires. Many research texts give excellent explications of this method and Kerlinger (1973); Bogdan and Taylor (1975); Busha and Harter (1980); De Vaus (1991); Dillman (1978, 2003); Czaja and

Blair (1995); Oppenheim (1992); Nachmias and Nachmias (1996); Babbie (1998) and Robson (2002) among others, are notable examples. In addition, there is a plethora of articles that tackle interview techniques, and of these Trull (1964) and Fontana and Frey (1994) are particularly revealing.

Like previous approaches, many researchers on the information behaviour of managers have employed interviews in data gathering. Aguilar (1967) used interviews in his seminal study of environmental scanning. He supplemented interviews with case studies of selected firms and found that this mixture provided a 'powerful two-pronged approach' (Aguilar, 1967:215). In a related vein, Keegan's research (1967; 1974) used structured interviews as did Fahey and King (1977). Consistent with this, Roberts and Clarke (1988) also chose the interview method as the preferred data gathering technique in small firms studies of information needs.

Despite their inherent merits, Mintzberg (1967) cautions that interviews can only reveal the managers' own perception of the job, as managers themselves do not give an objective view of their activities. To counteract this limitation, researchers suggest that interviews incorporate the "critical incident technique", whereby respondents are asked to give specific examples of a particular incident, and how they handled it. Keegan (1974) lucidly demonstrates an example of how the critical incident technique can be fused into the interview technique (see section 4.2.3 above).

Despite their inherent shortcomings, interviews will be used as a secondary data collection method. Grover and Achleitner (1985) suggest that the interview is a means of corroborating data gathered via other methods. In line with this approach, interviews will constitute the second phase of our data gathering. A detailed explanation of the core rationale behind the selection of the interview is a subject of a separate section 4.3 below.

4.2.5 Questionnaires

Variously referred to as the 'tried and tested' method, questionnaires are by far the most frequently used method in gathering research evidence, and have been used extensively in social and behavioural sciences research in general, and information seeking research (user studies) in particular. Research suggests that the questionnaire accounts for 56% of the data gathering techniques used in information need behaviour studies (Wang, 1999). In fact, studies of information needs and uses have been heavily criticised for their over-reliance on questionnaires (Herner and Herner, 1967; Crawford, 1968; Dervin and Nilan, 1986; Rhode, 1986; Hewins, 1990). Because questionnaires have stood the test of time as an efficient and effective data collection method, there is correspondingly a plethora of texts that describe this approach, of which Busha and Harter (1980); Swisher and McClure (1984); Oppenheim, (1992); Nachmias and Nachmias (1996); and Tashakkori and Teddlie (1998) are very good examples.

A large number of studies on managerial information behaviours have employed questionnaires for their data gathering. However, for purposes of our review, only a few studies that utilised questionnaires as a stand-alone data-collection technique merit examination to illustrate the application of the technique. Blagden (1980) mailed 1000 questionnaires to British Institute of Management members in a study of information seeking habits and had a 40% response rate; while Fletcher (1991) used a sample of 200 firms from the Times Top 500 for a questionnaire on the take-up of marketing information systems in the United Kingdom (UK), with a 58% return rate. In a similar fashion, a Norwegian study by Methlie and Tverstel (1982) involved questionnaires on the marketing managers of 400 large industrial companies to ascertain usage patterns of external information and had a response rate of 67%. Lewis (1982) mailed questionnaires to 950 presidents of small companies and achieved a response rate of only 24%. In his study of corporate planning of finance executives, Rhyne (1985) mailed 210 questionnaires to a sample derived from the Fortune 1000 List, and the response rate was 40%.

Analysis of research studies indicates that higher rates of response are achieved when questionnaires are sent to a selected group within companies as opposed to random samples. Hambrick (1981) obtained a 96% return rate with his questionnaires to 203 executives in 20 companies looking at environmental scanning activities. In a related vein, Culnan (1980; cited in Conyers, 1989) yielded 80% return rate from a sample of 450 managers in two large organisations where she investigated managers' use of libraries.

From the foregoing review, we conclude that the major advantage of the mail questionnaire, compared to other data collection techniques reviewed above, lies in its ability to collect great amounts of pertinent data from geographically dispersed individuals with great economy. Counteracting this utility of the questionnaires, however, is the low response rate it may elicit and, consequently, the questionable meaning of data (Swisher and McClure 1984). One of the greatest drawbacks of the questionnaire is the amount of non-response bias we may have (Kerlinger, 1973: 414). However, researchers advise that the most effective incentive to respond to a questionnaire it the quality of the questionnaire itself and a systematic approach to the development of the instrument itself; for example, appearance, colour, quality of paper wording etc. (Dillman, 1978; Swisher and McClure, 1984).

To sum up, this review demonstrates that, in the main, research on the information needs of managers has been conducted through the simultaneous use of quantitative and qualitative methods. Only few studies reviewed relied solely on one method. The review also suggests that each method has its own inherent strengths and limitations. Therefore whatever choice we make; has got some tradeoffs. Table 4.1 below illustrates some important characteristics about these methods: exemplars of studies, strengths and weaknesses and areas where the research approaches would be useful. A noteworthy, feature of this table is the addition of a method not frequently used compared to the other methods. The mixed method approach can take a variety of permutations such as simultaneously using questionnaires and interviews or diaries and interviews. At the heart of any mixed method approach is an acknowledgement that each technique has both weaknesses and strengths. Therefore, using two methods has the effect of counterbalancing the weaknesses at the same time exploiting the strengths. A fuller discussion of this technique is provided under triangulation (see section 4.4). In the table below, the authors names do not appear in the references were cited from Wang, 1999:66).

Table 4.1. Six methods of data collection: strengths and weaknesses

Method	Seminal works	Major advantages	Major disadvantages	Appropriate use
Diary	Carlson (1951) Stewart (1965) Allen (1977) Bystrom & Jarvelin (1995)	Efficient (i.e. large sample possible relative to researcher's time investment)	No help in understanding new dimensions Some problems with interpretation, consistency and reliability Turns respondents into researchers	To study information needs of large sample of different managers in various industries
Questionnaires	Maguire & Kench (1974) Dervin *et al.* (1976) Garvey (1979) Blagden (1980) Lewis (1982) Fletcher (1991)	Efficient and economical Transparency Analysis procedures well routinised	Low return rate Response bias (social desirability) Quality of data doubtful Sampling frame bias	To gather macro-level data on managers' perceptions and information behaviour
Face-to-face Interviews	Aguilar (1967) Schamber (1991)	Yield rich, accurate verbal data Flexible and adaptable, Probing reveals thoughts and underlying information behaviour	Time- consuming; requires careful preparation Poor recall or inaccurate articulation Use small and unrepresentative samples Analysis procedures still diffuse	To gather accurate first hand accounts Suited for studying information behaviours which are context-dependent
Critical Incident Technique	Wolek & Rosenbloom (1970) Keegan (1974) White (1975) Allen (1977)	Allows for intense probing Elicits rich real-life data	Incidents may not be easy to describe Descriptions may degenerate into "fantasy stories" Uses small samples Memory lapses	To investigate information needs and seeking behaviours in depth
Structured Observation	Mintzberg (1973) Streatfield & Wilson (1981) Greer & Hale (1982) Hale (1983) Grover & Glazer (1984) Mason (1984) Grover & Achleitner (1985)	Enables researcher to understand new dimension, probe and be systematic Yield rich qualitative data	Inefficient, consumes much of researchers' time Difficult to interpret some activities Observer bias Costly and access may be difficult	To study information seeking behaviours and sources utilized by managers
Mixed method	Aguilar (1967) Conyers (1989) Choo (1993) Wilkins & Leckie (1997)	Triangulation Advantages of different methods are exploited and weaknesses minimised	Consumes researchers' time and budget Requires more cognitive resources Lack precise data analysis procedures Integration of results problematic	Suited for studying information behaviours of managers

4.3. Rationale for methods

In several social research texts, authors devote attention to the choice of research methods. That is, they describe as specifically as possible the criteria researchers could use to choose concrete techniques or procedures to employ in data collection. According to Blaikie (1993; Quoted in Oke, 1999) the key issue for the researcher is how the research questions can be answered. The critical question as to which methodology (either qualitative or quantitative) to utilise should hinge on the nature of enquiry. Bryman (1988) suggests that the two approaches should in fact be seen as complementary rather antagonistic. In a similar fashion, Yin (1994), a prominent and respected scholar on qualitative methods proposes three important conditions for selecting a research strategy:

1. The type of research question
2. The extent of control an investigator has over actual behavioural events.
3. The degree of focus on contemporary as opposed to historical events.

Using Yin's (1994) conditions, we assess the five major research strategies employed in social sciences research (i.e. experiments, archival analysis, histories, surveys and case studies) for their appropriateness for the study reported here. Table 4.2 summarises the suitability assessment for each strategy based on Yin's criteria.

Table 4.2. Choice of research strategies (after Yin, 1994)

Research Question/ Yin's criteria and applicable research strategies	The type of Research Question	Does research require control over actual events?	Does research focus on contemporary events?	Choice of research strategies
RQ1: Which types of information do SME managers consider important?	"Which" Exploratory) Case study, survey Archival analysis Experiments and History	No (Survey, Case study archival analysis and History) Drop Experiment	Yes Survey, Case study, Archival analysis Drop history	Survey Case study and archival analysis
RQ2: How much information seeking do managers do?	"How" (Exploratory) Survey, Case study, Archival analysis, Experiments and History	No (Case study, survey archival analysis and history) Drop Experiment	Yes (Case study Survey Archival analysis) Drop History	Case study Survey and Archival analysis
RQ3: What types of information do managers seek?	"What" (Exploratory) (Survey, Case study, Archival analysis Experiments, and History)	No (Case study, Survey, Archival analysis, and History) Drop Experiment	Yes (Case study, survey, and Archival analysis Drop History	Case study. Survey and Archival analysis
RQ4: which information sources do managers utilize?	"Which" (Exploratory) Case study, Survey, Archival analysis, Experiment and History)	No (Case study, Survey, archival analysis and History) Drop Experiment.	Yes (Survey, Case study and Archival analysis) Drop History	Case study Survey and Archival analysis
RQ5: Which factors influence information source selection?	"Which" (Exploratory) (Survey, case-study, Archival analysis and History	No (Survey, Case study Archival analysis) Drop Experiments	Yes (Surveys, Case study and Archival analysis) Drop History	Survey Case study And Archival analysis
RQ6: In what ways do SME managers use the information acquired	"What" Exploratory) (as in others) History, etc)	No (Case study, Survey and Archival analysis) Drop Experiment	Yes (Case study, Survey and Archival analysis) Drop History	Survey, Case study and Archival analysis

As can be seen in the above table, all our six Research Questions focus on 'What', 'Which' and 'How' and are exploratory in nature, consistent with our overall goal of developing propositions for further enquiry. In accordance with Yin's (1994) schema, any of the five listed research strategies can be used (see table 4.2 column 2 above). Also, our six Research Questions (described in detail in chapter 1, section 1.3) do not require control over actual behavioural events and contextual factors. Experiments require a closed system, where an investigator can manipulate behaviour directly. This can occur in a laboratory setting where the focus is on one or several variables or in a field setting (social experiment) where for example, a certain kind of treatment is applied to one group of people, and the other group is kept aside as a control. Experiments are ideal in situations where there is a requirement to establish the effect of changes or intervention in a particular system or variable. On the basis of this, this research strategy is judged inappropriate for the six questions.

Further, our six Research Questions tackle contemporary issues. The intent of this study is to examine a current situation, i.e. the information behaviour of SME managers in the present era. No empirical studies were found in our review of literature (see chapter two) that were based on historical data. According to Yin (1994), the historical method deals with the 'dead past' where the researcher relies on documents (primary, secondary, cultural and physical artefacts) as the main sources of evidence. Because of the above reason, the historical method is not judged suitable for our research questions (see table 4.2, column 5). Having eliminated experiments and the historical method, we were in a position to use any one of archival analysis, case studies and surveys to investigate our Research Questions.

In conclusion, this study conceived questionnaires as a suitable technique in gathering descriptive, macro-level data, which would allow patterns in the data to be explored further in interviews. It was also felt that this technique would yield a significant amount of data relatively quickly and cheaply (Forsgren, 1989). Interviews would act as means of corroborating survey data (Grover and Archleitner, 1985). In line with this approach, interviews would constitute the second phase of structured data gathering and the qualitative data generated would be used to construct case studies. Of prime importance to the selection of our research strategies were two key factors: (1) the need to exploit strengths of separate methods at the same time minimising the inherent weaknesses of each method; and (2) more importantly, the suitability of the technique to address the research questions. A discussion that seeks to shed more light on the rationale for choosing these techniques follows.

4.4 Survey method

The questionnaire method also (also known differently as cold mail survey) is a method of social research that has its advocates and critics. It seeks to achieve an understanding of phenomenon by comparing cases (De Vaus, 1996). Surveys have been used extensively in information needs, seeking and use studies (Hale, 1986; Wang, 1999). For example, see our review of literature and exemplar studies in section *4.1.5* above. For our study, the survey was conceived as the primary data gathering method for three main reasons. First, because there have been very few studies on the information needs and information seeking behaviours of SME managers, this study sought to collect data in order to have a broader picture of the information needs and information seeking behaviours of SME owner/managers. The questionnaire method is probably best suited to collect original data for describing a population too large to observe directly (Babbie, 1998). The present study used the mail-delivered questionnaire as an economical and efficient way of covering respondents who are spread over a fairly large geographical area, as is the case in Botswana, the setting of the study. Second, since this study intended to investigate the perceptions of respondents about their information needs and the sources that they use, a mail-delivered questionnaire would permit the respondents to indicate their perceptions. Third, previous research suggests that obtaining access into firms can be extremely difficult and SME managers are very busy people. With this caveat in mind, it was considered inappropriate to use either the diary method or observation, as they are fraught with serious potential drawbacks. For, example, gaining access is not easy in organisations in general but gaining access to observe a busy manager would be even more difficult.

As alluded to earlier, the questionnaire method suffers from two main disadvantages: its low response rate and its inability to gather detailed information which enables in-depth analysis (Kerlinger, 1973). Our attempt to maximise the response rate will be a subject of another section (i.e., instrument design). However, our attention now turns to the second disadvantage of the mail-delivered questionnaire because it constitutes the prime reason for choosing the interview method. For the present study, the interview method was chosen to gather detailed information (qualitative data). As stated previously, the interview as a data gathering tool can be used for several purposes: as an exploratory device to help identify variables and relations; as the principal data collection tool, i.e., as a stand-alone data generation technique; and it can be used to go deeper into the motivations of participants and their reasons for responding as they do (De Vaus, 1991) In this research, we intended to conduct interviews to gather additional and alternative data to supplement data generated through the mail questionnaire. Although the questionnaire is suitable for obtaining data on respondents' perceptions of their information needs, and information seeking behaviours, it does not provide detailed descriptive information about how respondents actually use information or why certain trends and patterns emerge. In short, it does not adequately address some 'why questions'.

In this study, the interview was used primarily to gather detailed, first hand accounts of actual instances of information needs, seeking behaviours and use from respondents who have already completed the questionnaire. A second purpose of the interview was to have respondents explain certain patterns of information seeking and use emerging from their questionnaire responses. A final purpose of the interview was to check on the validity of the results from the mail questionnaire. To sum up, the research strategy adopted in this project was the use of quantitative and qualitative research methods. Such a 'between- methods approach' is perceived to be not only pragmatic but more importantly, as the most appropriate means to cross-validate shortcomings inherent in both quantitative and qualitative research methods (Jick, 1979; Loveridge, 1990). Thus, it is consistent with key principle of triangulation.

4.5 Triangulation

Several scholars in social sciences methods caution against what they regard as the foolhardiness of sole reliance on one method of data gathering (Tashakkori and Teddlie, 1998). To counteract the inherent weaknesses of relying on one method, they suggest the utilisation of multiple methods to simultaneously gather data on the same phenomenon, a process referred to as triangulation (Jick, 1979; Loveridge, 1990; Janesick. 1994).

The most important virtue of using multiple sources of evidence is the development of converging lines of enquiry (Yin, 1994). Methodological triangulation is achieved when different methods of approaching a social enquiry are used, such as combining both qualitative and quantitative approaches. In this case, the qualitative study attempts to overcome the limitations of the quantitative approach and *vice versa*. Multiple and independent measures, if they reach the same conclusions, provide a more certain portrayal of the phenomenon under investigation (Jick, 1979). Vidich and Shapiro (1955; this and all other studies on triangulation on this and the subsequent page were cited in Jick, 1979) suggest that 'without the survey data, the observer could only make reasonable guesses about his area of ignorance in the effort to reduce bias'.

Jick (1979) observes that survey research may contribute to greater confidence in the generalisability of results. Similarly, Reiss (1968) is of the view that surveys can be used to exploit 'the potentialities of social observation' while Sieber (1973) posits that field studies such as case studies can contribute to survey analysis in terms of validation and interpretation of statistical relationships. Deising (1971) stresses that survey research and fieldwork are better seen as two ends of a continuum rather than as two distinct kinds of methods. Yet, notwithstanding the perceived benefit of this research design, few studies integrate both methods. According to Jick (1979), journals contribute to this scenario. By specialising in methodology, they thus encourage purity of method.

Exemplars of studies that utilised the triangulation approach (cited in Jick 1979) include: LaPiere's watershed investigation into the relationship between attitudes and behaviour, Reiss' (1968) study of police and citizen transactions, Sales' (1973) study of authoritarianisms, and Van Maanen's (1975) data on police socialisation. In information science, exemplars include Conyers' (1989) of research on external information use by managers, Choo's (1993) study on environmental scanning by managers and Marcella's (2001) study on user information need, information seeking behaviour and information service provision in the context of citizenship and business activities. From management, the pioneering work of Aguilar (1967) and a recent study by Oke (1999) are particularly instructive.

The study reported here followed the above LIS and management exemplars and utilised a methodological approach (integrating questionnaire survey with in-depth interviews to build case studies) together with a data triangulation approach (multiple sources of data within a research method. Our prime intention was not only to examine the issue at hand from multiple perspectives but also to enrich our understanding by allowing for new and deeper dimensions to emerge (Jick, 1979).

4.6 Research design

Consistent with the design phase described above, the empirical phase of our research envisaged a three-stage data gathering process. Stage one involved carrying out a pilot study in a sample of firms to provide insight into basic issues of information behaviour. Stage two entailed conducting the survey proper to explore and gather insights into the six research questions. Stage three involved conducting in-depth interviews on which to build case studies. The objective of interviews was to validate the results of the survey and also to enrich our understanding of the emerging trends identified in the survey. This section discusses in detail each of the empirical stages. We begin with stage one (Pilot study). Next, we deal with stage two (the Survey proper), which is followed by the last stage the interviews. We then conclude the chapter with a summary.

4.6.1 Pilot study

Converse and Presser (1986) rightly underline the importance of having consultation with others on the content and structure of the questionnaire before using it. In their view, this reduces deliberate ambiguities and enhances reliability. Similarly, Yin (1994), suggests that pilot study helps refine data collection plans with respect to both the content of the data and the procedures to be followed. To this end, and because no survey was found in the literature that sufficiently reflected the objectives and scope of our study, an original survey instrument was developed. Following Dillman (1978), Converse and Presser (1986), Oppenheim (1992) and many others, we developed the questionnaire through three steps:

- An extensive review of information needs, seeking and uses research and select studies in environmental scanning.
- Extensive consultations with researchers on SMEs industry experts, statistical consultants and managers of entrepreneurial firms.
- An examination of SME reports/documents and entrepreneurial writings on Botswana in the print media (archival analysis). Steps 2 and 3 necessitated travel back to Botswana by the investigator between July and September 2001.

The above three steps were undertaken for three specific reasons: (1) to ensure that the questionnaire fulfils the objectives of the study, (2) to make sure that content and terminology were appropriate and understood by the SME managers to whom the questionnaires would be addressed, and (3) to find out if the data gathered would be analysable in some conventional statistical packages such as Statistical Package for Social Sciences (SPSS), Minitab or Microsoft access.

In sum, the pilot study provided insight into the range of issues pertaining to managerial information needs and information seeking behaviours. The data gathered during the pilot phase was used together with information obtained from the review of literature to develop empirically informed and relevant research questions and a refined data collection instrument. Crucially, the pilot study was also used as a test for the efficacy of using the questionnaire as data gathering device. Finally, the pilot study was instrumental in exposing the researcher to a network of persons with interests in SMEs in Botswana.

4.6.2 Questionnaire design

As stated previously, one of the major limitations of the questionnaire method is the low return rate associated with it. In the case of requesting SME managers to answer questionnaires, we may expect a very low response rate. Lewis (1982) mailed 950 questionnaires to presidents of small companies and received a response rate of 24%, while Vaughn (1998), in a Canadian study distributed 3000 questionnaires and received a response rate of 12.5%. Relatedly, in another study by the Institute for Small Business Banks of Montreal and the Centre for Creative Leadership, San Diego (1995) a response rate of 3.3% was received. More recently, and relevant to this study setting, Duncombe (1999) mailed 460 questionnaires to SMEs in Botswana and received a low response rate of only 14.28%. Further, substantial empirical evidence from allied disciplines suggests that SME managers have more pressing problems than engaging in filling long questionnaires. In essence, all these examples confirm an existing big problem of low response rates with user surveys. However, researchers on questionnaire design suggest a range of practical measures to be followed in order to maximise the response rate. For example, Moser and Kalton (1971) identify questionnaire length as an important determinant of high response rate, while Swisher and McClure (1984); Oppenheim (1996), and others cite, among other aspects, colour and quality of the paper used. Although, these measures are by and large useful to the empirical researcher, we found Dillman's (1978) total design method (TDM) most relevant and pragmatic. Because of the perceived import of the TDM to this study, it merits a fuller explanation.

Dillman (1978) views the process of sending a questionnaire to prospective participants, getting them to complete the questionnaire and subsequently returning it as a special case of 'social exchange'. Thus applying the theory of social exchange as developed by (Thibaut and Kelly 1959; Homans 1961; and Blau 1964; cited from Choo, 1993), Dillman posits that a person is most likely to answer a questionnaire when the perceived costs of doing so are minimised, the perceived rewards are maximised and the respondents trusts that the rewards will be delivered. Respondents' costs can be reduced in several ways such as packaging the questionnaire to look slim and easy to complete; asking interesting, clear and concise questions and including prepaid return envelopes. Social rewards may take various forms, including explaining how the study will be useful to the respondent, showing appreciation to the respondent by way of thank you, and offering copies of the study's report. Trust may be established through sponsorship by trusted authorities, the use of letterhead stationery from legitimate sponsor and many others. Exchange theory suggests that the three concepts of costs, rewards and trust are interactive and may offset each other. For example, attempts to reduce costs (e.g. with a short questionnaire) may be offset by failure to offer rewards (e.g. not explaining the potential benefit of the study). It is Dillman's strongly held belief that whether people actually do respond is determined by their overall assessment of the survey rather than an isolated reaction to specific aspects of the survey. Put differently, every aspect of the survey implementation must be carefully planned to create an overall perception in the respondent that will encourage response and nothing should be left to imagination.

On the basis of social exchange theory, Dillman (1978) outlines a set of survey procedures that may be applied to obtain higher response rates. These procedures, known as the total design methods consist of two parts: (1) identifying and designing each aspect of the survey process that may affect response in a way that maximises response rates; (2) organising the survey effort in a way that assures that the design intentions are carried in complete detail.

In the first part of the total design methods, highly specific guidelines are provided for constructing the questionnaire and implementing the survey. On questionnaire construction, elaborate instructions govern the use of paper, typefaces, sequence of questions and page layout while on survey implementation, there are equally comprehensive instructions that govern the content and personalisation of the cover letter, signing of the letter, the mail out package and the three follow-up appeals on non-respondents.

Both the above empirical and theoretical evidence guided our questionnaire design. The questionnaire was kept as short as possible, as questionnaire length has been identified as an important determinant of high response rates (Moser and Kalton, 1971). However, we also considered completion time as a more important factor than absolute length; questionnaire length was as a result, traded against shorter completion time. Thus the tool was designed to facilitate easy completion time with nine of the questions requiring only short written answers and the remaining eight using Likert scales to enable efficient completion.

Several scholars note that in their experience, longer questionnaires are no less likely to be completed than the shorter ones. They pinpoint that the clarity of questions is equally important. Thus in developing the instrument, an attempt was made to use language devoid of information science jargon. To this end, we developed a short schedule of definitions to standardise understanding of information and ease completion for respondents (see appendix C).

Consistent with recommendations from several writers (e.g. Moser and Kalton, 1971; De Vaus, 1991; Oppenheim, 1992; Czaja and Blair, 1995), the questionnaire was internally pre-tested with a total of nine graduate students (4 men and 5 women). Six of the respondents came from three departments of Strathclyde University (Management, Marketing and Information Science), while the other three were doctoral students at the universities of Glasgow, Case Western Reserve (USA) and University of Botswana respectively.

Each person was asked to critique the instrument and identify any aspect of it that needed improvement or could cause ambiguity. Crucially, their completion time was also sought. Overall, they provided invaluable feedback on various aspects of the questionnaire. For example, three of the respondents from the Marketing Department who had just finished a course in research methods told the investigator that the questionnaire risked not being responded to in its current 8-page form. Respondents also provided alternative terminology that they thought were used by in small firm organisations. All the feedback was carefully considered and eventually integrated to produce a drastically trimmed version of only 3.5 pages that took in the region of 20 minutes to complete, without compromising the aims of the research.

In order to maximise response rate, several specific strategies were undertaken:

- A covering letter printed on the sponsor's letterhead (University of Botswana) explained the reasons for and the importance of the survey at the same legitimising the study and assuring the respondents of utmost confidentiality and anonymity.
- Consistent with the social exchange theory, respondents were promised a copy of the research project upon completion as an incentive.
- Questionnaires and other accompanying documents were printed on coloured paper (pink, yellow, blue and green) to add to their visual appeal (Dillman, 1978).

4.6.3 Pilot testing of Questionnaire

Many writers on survey research pinpoint the importance of having a pilot study prior to embarking on the main survey itself. According to Oppenheim (1992), questionnaires do not 'emerge fully fledged; they have to be created, adapted, fashioned and developed to maturity after many abortive flights' (Oppenheim, 1992:47). This important caveat aptly summarises and underlines the perceived importance of doing a pilot test. Pilot testing or pre-testing provides a way of evaluating questionnaires. In this study, our prime aim of pilot testing the questionnaire was to utilise a sample of manufacturing industry respondents' experience to refine the questions and check the efficacy of the questionnaire as a research tool. According to De Vaus (1991), pilot testing can be classified into two types: 'declared or participating' pre-test and 'undeclared pre-test'. The first type has been briefly described appropriately under questionnaire design (see section 4.5.2 above). Essentially, in this phase, help and advice from the respondents are explicitly sought about the clarity of the questions and how the questions might be improved. The second type 'undeclared' pre-test is where respondents are not told that the questionnaire is under development test. Both methods were employed in this study. Internal pre-testing has been is described earlier as already mentioned. In this section, we describe how the 'undeclared' pre-test was executed for this study.

Before the survey proper was launched, a pilot testing exercise was carried out with some fifty companies between May and June 2002. This was intended to test both the questionnaire and the methodology and gain some valuable insight into the information behaviour of SME managers in advance of the larger scale survey that was scheduled to follow. Specifically the objectives of the pilot test were:

- To ascertain the validity and reliability of the questionnaire
- To gather valuable insights on the phenomenon under scrutiny
- To identify the characteristics of firms and managers in the manufacturing sector
- To obtain feed back that would be incorporated in refining the research instruments and administration procedures.

To pilot test the questionnaires and administration procedures, 50 coded and coloured questionnaires, each with a schedule of definitions, an individually addressed covering letter and a postage-paid reply envelope were mailed to randomly selected managers. Two weeks later, a follow-up letter was sent to all those who had not responded. In a nutshell, the pilot testing was executed as a miniature version of the survey proper. Overall, a total of 16 usable questionnaires were received, giving a response rate of 32%. Data yielded from the pilot survey was carefully studied and considered. Subsequently, some changes were made to the questionnaire. For example the spaces for the 'tick' box were enlarged. More importantly, question 16 which had been adapted from Choo (1994) and measuring the uses to which managers utilised information was dropped in favour of a simpler one (see appendix B). The resultant survey instrument is a seventeen-item and four-page document (back-to-back), slim and inviting document. We discuss the elements of the questionnaire below.

4.6.4 The Survey instrument

The survey is a 17-item instrument carefully crafted as the 'ambassador' to gather both factual and perceptual data for the study. It consists of five main sections. Consistent with previous research (Czaja and Blair, 1995) the construction of the survey was influenced by the previous work of several authors. The first section, which aims to identify both the demographics of the SME owner/managers and the characteristics of the respondent firms, was based on the work of many authors. Among the several factors affecting the use of information is the individual's information environment (Chen, 1982; Allen, 1969; Paisley, 1968).

The second section focuses on the perceived important types of information. It was based on the work of Daft *et al.* (1988), Johnson and Kuehn (1987), Smeltzer *et al.* (1988) and MacLachlan (1993). In their respective studies, these authors deconstructed the business environment into five or six elements: the competition sector, the customer sector, the technological sector, the regulatory sector, the economic sector and the socio cultural sector. However, in this study, we have modified these sectors into types of information so that each sector constitutes a specific type of information. By so doing, we are not only able to capture the factors that generate information issues but also compare the results of this study with above studies. Additionally, a question similar to that employed by Johnson and Kuehn (1987) was used to measure, in hours, the extent of information seeking.

The third section explores the types of information sought and the sources of information utilised by owners/managers and the factors that influence the selection of certain information sources. This section was based on extant literature from two related streams: environmental scanning (Aguilar, 1967; Keegan, 1974; El Sawy, 1985; Daft *et al.*, 1988; Boyd and Fulk, 1996) and library and information science Lester and Waters 1989, McLachlan, 1993; Choo and Auster, 1993). However, the last question of the section was influenced by the work of Allen (1969), Paisley (1968), Slater (1969) and Chen (1982). In their respective writings, these authors suggest that among the factors that affect information seeking and use are: (1) the availability of information sources; (2) ease of use (free of effort); (3) reliability (dependable or trustworthy); and (4) relevance (degree of perceived usefulness).

The final section explores the uses to which information is put once it has been collected. Construction of this section was influenced by the work of Auster and Choo (1993; 1994), which in part, investigated different types of decisions made by CEOs. However, because of the exploratory nature of the present study, we do not delve into the detailed decision making process as this is well beyond the scope of this study, but we only explore to which uses executives put external information.

4.7 Sample selection

Sampling is defined as that research design activity of selecting a small number (subset or portion or microcosm) of items, entities, cases, units or parts of the population so that generalisations regarding the entire population can be made. Essentially, the process of selecting a few from the whole basically determines the accuracy of the estimates derived from the sample because the sample strives to reproduce the structure and features of the population (Fink, 1995; Kent, 1999). Mainstream statistical theory suggests that researchers may make their selection of units based on purposiveness and representativeness.

Purposive samples are generated when the researcher using her or his judgement makes the selection of units (Patton, 2001). The selection made may be on the basis of contacting those units that are easiest to access, those that are deemed to be the most important, and those that reflect variety or extremes or those that are typical. A researcher, may for example, select those organisations in which she or he already has contacts, or those that are within travelling distance. Likewise, units may be chosen because they are 'typical'. That is, particular cities, towns or locales may be chosen because they have typical or average populations, or industrial, institutional and social structures.

According to Kent (1999) purposive sample are used, quite legitimately, for research that is 'exploratory, qualitative or indeed experimental where the focus is on understanding situations, generating ideas or evaluating social situations, products, ideas for products, advertising or and ideas for advertising' (Kent, 1999: 140).

In contrast, representative samples are chosen in such a fashion that they attempt to mirror the structure and features of the population of units from which the sample was drawn so that in the final analysis, they are a microcosm or a miniature version of the entire set of units. They are used primarily for quantitative analysis, either to make estimates of the size of frequency of a population characteristic, or to measure and test the extent to which the characteristics of the cases are related together in the population. The results derived from the sample should ideally be broadly the same as those that would have been obtained had a whole study of the population been studied. There are several techniques for producing samples. However, we briefly discuss only four of these below. There are many excellent books that provide full discussions of sampling, sampling frames and procedures: (Kish, 1965; Fink, 1995; Nachmias and Nachmias, 1996;)

4.7.1 Simple random sampling

Simple random sampling is defined as a process of selecting cases or units of a population of interest to the study in such a manner that each unit or case in that group has an equal chance or probability of being selected. That is, at the heart of the selection process is the notion of randomisation, which simply entails the use of a technique that is independent of human judgement from, a complete of list of the population of cases, which is to be sampled (sampling frame). For example, a random technique would involve some form of lottery, like taking names out of a hat, using tables of random numbers to select numbered units, or relying on computerised random numbers (Kent, 1999).

4.7.2 Systematic sampling

Systematic sampling provides a method of selecting cases for a sample at regular intervals after a random start. Here, the prime rationale is to remove human judgement. This may mean taking every *n*th name from a list at *N*/*n* intervals where *N* is the population size and n is the sample size. To put this simply, if for example the researcher wants a sample of 100 from a list of 1000 names, she or he can pick every 10th name. Similarly, another form of systematic sampling would be to take every nth house along a street and follow some rule about the selection of streets. In essence, systematic sampling technique strives to give each case in the list at the outset an equal probability of being selected at random and is independent of judgement of the researcher, who might otherwise tend to pick out certain types of case.

4.7.3 Stratified random sampling

This procedure utilises the information already contained in the sampling frames to construct a sample that is guaranteed to be representative in respect to that information. Thus, if a list of individuals contains information on the gender of each person, then the proportion of males to females is known. Supposing it is a list of a chess club, and 40 per cent of the members are female. We can then ensure that 40 per cent of our sample is female. Thus if we wanted a sample of 100 members, we could select forty women and sixty men at random (using either randomised or systematic sampling techniques). Provided the proportions in the sample are the same as the proportions in the population, and then the resultant sample is more likely to be accurate and representative than the simple random sample because some of the sources of variation have been eliminated. However, a stratified sample requires an accurate sampling frame and one that contains data on the factors that we want to use for stratification.

4.7.4 Cluster sampling

Clustering or cluster sampling involves respondents being divided into distinct geographic areas such as villages, towns, suburbs and cities. Clustering becomes more advantageous when the interviewer's respondents or potential respondents are geographically concentrated as it greatly minimises travel time. Overall, the procedures involve randomisation principles hence some writers refer to it as two-stage sampling.

4.7.5 Quota sampling

In quota sampling, cases or units are selected on the basis of meeting some predetermined criteria deemed to apply to the entire population. The goal of quota sampling is to ensure that the various subgroups in a population are represented in relevant sample features in accordance with the research's requirements. Statisticians generally regard quota sampling as a "non-probability" or "non-random" sampling technique. This mainly stems from the fact that the final selection of respondent is made by the person executing the survey; so human judgement enters into the selection process. Instead of being given a list of pre-selected names and addresses, the interviewer or survey administrator is issued with an assignment in the form of a quota. To illustrate this, suppose a survey required a researcher to find at a fixed sampling point, 30 adults aged 20 and above:

- 15 of them female
- 10 aged 40 or over and 12 aged 16-35
- 8 in minority group
- 12 in social group B2CD

In this case, gender, age, social class and ethnic group would be described as the 'quota controls'. These controls may be interlaced so that individuals who possess a combination of these features need to found and persuaded to take part in the survey.

In practice, whatever sampling technique is used will depend primarily on whether respondents are to be approached via the telephone, through the post, face-to-face or via Internet. Since telephone directories provide complete sampling frames for telephone interviews, clustering is not required and there seems little point in using it other than systematic random sampling frame from the listed names. However, it is also important to note that each of the sampling techniques reviewed above has both strengths and limitations.

Fink expresses this problem in the following way: 'no matter how proficient you are, sampling bias or error is inevitable' (Fink, 1995: 25). To illustrate, random sampling has the following advantages and disadvantages respectively:

- Minimise bias in sampling
- Minimise variability between samples
- Will, where samples are drawn at regular intervals reflect any changes that are taking place in the population.
- They are slower and more expensive than non-random techniques
- They need a sampling frame
- The sample achieved will almost certainly be smaller than the sample drawn.

Notwithstanding the inherent shortcomings of the sampling techniques discussed above, a combination of sampling methods was used for this study. In the first instance, we used cluster sampling since the SMEs are disproportionately concentrated in the four cities of Gaborone, Francistown, Lobatse and Selebi-Phikwe. Also, clustering was used to select sectors with a heavy concentration of SMEs. In order to minimise subjectivity in selecting respondent firms, a second procedure of simple random sampling was adopted. Finally, we employed stratification to generate a 'proportional' sample that strove to accurately represent both small and medium-sized firms (see chapter 3 for a fuller discussion of firm definitions).

4.7.6 Survey sample

The target population for this study consisted of some 2228 registered small and medium-size manufacturing firms, both with 100 percent citizen and non-citizen equity and operations in various parts of the Republic of Botswana. A small to medium-size firm by Botswana standards is defined as one with 10–100 employees and with annual sales between P60, 000 and P8 million (SMME Task Force Report, 1998). As evident from our definition, our target population deliberately excludes all very small and micro-enterprises (also known as survivalists) but survey exclusion by no means decries the significance of these firms. In fact, the burgeoning research on entrepreneurship in Botswana (Briscoe, 1995; Duncombe, 1999) suggests that micro-enterprises are regarded as a major contributor of employment creation. However, they are notoriously difficult to research and were omitted from the present investigations. Additional reasons for their exclusion are that they have a very high casualty rate (Briscoe, 1995) and do not possess sufficient structure to display information seeking.

The manufacturing sector was chosen first, because it occupies a central place in Botswana's strategy for development and is seen as the principal sector through which the twin goals of diversification and employment creation can be realised (see section 3.7.4 in chapter 3 for a fuller discussion of this sector). Secondly, in contrast to other industries, small and medium-sized firms dominate the sector. Because of the industry's long history of targeted financial assistance, it has over the years spawned a sizeable population of mature SMEs. Other industries boast new or start-up firms which extant research suggests are affected by a high mortality rate, thereby making them difficult to research (Briscoe, 1995). Finally, recent statistical evidence (CSO, 2002) suggests that 63% of the SMEs are located in the towns of Gaborone, Francistown, Lobatse and Selibe-phikwe). By focusing on SMEs in a single industry (manufacturing), we also avoided potential confounding industry effects and minimised differences among firms with respect to environmental demands for information as the firms are largely situated in a near-homogeneous business and physical environment.

There is no theoretically agreed upon ideal size of a sample. Not withstanding this problem most researchers on survey design rightly stress the need for a sample to be representative and large enough (Fink, 1995). Thus a sample of 400 firms was considered a suitable representation of the cross-section of the manufacturing industry. Despite the heterogeneity inherent in the manufacturing industry, the sampling method chosen ensures better representation of the significant sub sectors selected for investigation.

The sample was drawn from the Manufacturer Directory (2001). This is a nation-wide database of all registered companies trading in the country compiled by the Ministry of Trade and Industry. Its major advantages are comprehensiveness and recency. It covers all the different sectors of the economy and is updated on an annual basis. Furthermore, several researchers on SMEs in Botswana have used this tool (e.g.Duncombe, 1999). In the present study, we also complemented the directory with a battery of other sampling frames: BEDIA, BOCCIM, Business Directory, EAOB and the Botswana Telecommunication Directory (BT). Together, these directories enabled us to crosscheck company details especially when there were some lingering doubts. More importantly, they enabled us to detect exporting firms, and confirm whether the sampled companies were diversified, all which could have confounded the sample. The table below displays the 8 sectors of interest to this study.

Table 4.1 Profile of sectors investigated:

Industry	BSIC	Sub Sector Description
	1541	Bakery products
	1800	Clothing and other wearing apparel
Manufacturing	1530	Grain milling
	2800	Fabricated metal products
	2620	Non-metallic mineral products
	1910	Tanning and leather
	2000	Wood and wood products
	1700	Textiles

Similar to past research (e.g. Duncombe, 1999), we used the SIC system, a traditional taxonomy that assigns firms to particular industry groups. The SIC system also classifies companies based on their production processes. According to the Botswana Standard Industrial Codes (BSIC) the manufacturing sector is the most diverse industry with 31 constituent sectors ranging from meat and meat products (BSIC 1510) to recycling, processing of metal and non-metal waste (BSIC 3700). However, all the sectors chosen produce discrete goods and thus share a somewhat homogenous task environment. A clarification about the task environment is in order. According to Dill (1958), the environment can be conceptualised as having several sectors that exist in two layers. The task environment influences day-to-day organisational operations and goal attainment, and includes sectors such competitors, suppliers and customers. The outer layer is called the general environment and refers to sectors that affect the organisation indirectly (e.g. social, demographic and economic factors). Finally, following the trail of the vast majority of prior studies, the firm managers were chosen as the respondents as they in charge of the day-to-day performance of their organisations.

4.8 Research permit

The fieldwork for the study reported here took place in Botswana from April 2002 through April 2003 and the investigator collected all the data with some help of administrative assistants without any financial reward. Once the data collection tool had been tested via 'undeclared pilot test' (DeVaus, 1991) (see section 4.5.3 above) in May 2002, the first step comprised obtaining permission from the Office of the President to proceed with the data collection process. It is a statutory requirement according to the laws of Botswana that each piece of major research be granted permission. Consequently, prior to the commencement of the fieldwork, a letter of explanation from the Supervisor Mr. Paul F. Burton (see appendix E) was presented to the Office of the President. Subsequently, the application to conduct research was approved in a written format (See appendix F).

4.9 Questionnaire administration

Questionnaires were sent out to 400 firms chosen through the sampling process described, in June 2002. The questionnaires were coded to identify respondent firms. The letter was addressed to the company CEO/manager by the title only. A covering letter that stated the objectives of the research and assured managers of the confidentiality of their responses accompanied the questionnaire. A copy of the covering letter is in Appendix A. A stamped return envelope was enclosed to facilitate return of the questionnaire. After three weeks, the first follow-up letters were despatched to non-responders. Further, following Dillman (1978), follow-up telephone calls were made two weeks after the follow-up letters. Six weeks from the date of initial mailing, non-responders were sent another follow-up letter as well as a copy of the questionnaire in case they had not seen or misplaced the first one. Three weeks later, a follow-up letter was sent and it was followed by telephone calls. Taken together, the initial mailings and the follow-ups generated a 40 percent response rate, which was not considered satisfactory. Consequently, it was decided that another phase data of collection be launched. Accordingly, the supplemental stage of questionnaire mailing commenced in early February 2003, with 200 coded questionnaires being despatched to managers chosen according to an adjusted version of the same sampling process (see section 4.6.5). For instance, because of the disproportionate distribution of SMEs according to different sectors resulting in some sectors having more and others very few, necessary changes had to be made to the sampling process. The procedure for administering the questionnaires was similar in every respect to that adopted during the earlier phase described above. However, this time, only one set of follow-up letters was sent to respondents. Next, telephone calls were made to non-responders. The second phase of data collection yielded a 16 percent response rate. Overall, the supplemental survey gathered very useful macro level data in keeping with our research objective. The analysis of this data is a subject devoted to chapter five.

4.10 Interviews

Like the survey discussed earlier, our interview schedule was designed in a methodical fashion. Our prime concern was to maximise the capability of the instrument to gather alternative detailed data at the same time minimising the limitations associated with the interview method (for a fuller discussion of the disadvantages of the interview method, Labovitz and Hagedon (1975) is relevant as Chapter five is devoted to the strengths and limitations of this technique). Because of the importance of the format of the interview format on the structure and contents on the instrument, we start by providing detailed information on it before focusing attention on the instrument itself.

For this study, the interview format adopted was based on the focused interview. According to Judd, Smith and Kidder (1991), the focused interview includes any interview in which the interviewer knows in advance what specific aspects of an experience they wish to have the respondent cover in their discussion. For this research project, interview respondents would be asked to recall and relate their experiences and behaviours in specific incidents (situations) of needing, seeking and using environmental information. On the other hand, the interviewer knows what aspects of the incidents she/he wishes to pursue in their discussion, as well as what topics or what aspects of a question she/he wishes to be addressed.

Thus, in effect, the study interview design is based on the principles of the critical incident technique as described in section 4.2.3. In essence, the critical incident technique is a procedure for gathering certain important facts concerning behaviour in defined situations (Flanagan, 1954:335). It is based on two important principles: (1) the reporting of facts regarding behaviour is preferable to the collection of interpretations, ratings and opinions based on general impressions; (2) the reporting should be done limited to those behaviours which make a significant contribution to the activity. Flanagan (1954) suggests that the incident to be studied should satisfy three criteria:

- The incident should be recent in order to ensure that the incident is representative of actual happenings.

- The incident must occur in a situation where the purpose is clear and where ts consequences are sufficiently definite so as to leave little doubt about its effect.
- The incident should be an observable human activity that is sufficiently in itself to allow inferences to be made about the subject.

The critical incident technique seems appropriate for studies on information seeking behaviour of a given user group. It has been applied in a large number of information needs and use studies (see section 4.2.3 above). As mentioned before Menzel (1966) suggests that the year 1966 marks a new era in information seeking research largely because of the systematic application of the critical incident technique for collecting factual data. Some well-known studies which utilised this technique include, among others, the study of the US Department of Defense R&D Personnel by Auerbach Corporation (Bernal 1965; cited in Choo, 1993), the study of Scientists and Engineers by Rosenbloom and Wolek (1970), an investigation of the communication behaviour of academic economists in research phases by White (1975), the study of Scientists and Technologists by Allen (1977), Keegan's (1974) research on multinational scanning and Choo's (1993) study into environmental scanning by CEOs in the Canadian Telecommunication industry. We took the latter study to illustrate real-life application of the critical incident technique in a corporate setting. In this study, interview questions on environmental scanning focused on recent episodes of information seeking, and the types of information sought and the sources utilised by CEOs. In summary, our interview format was developed with guidance from robust theoretical and empirical prior research. Essentially, it was hoped that it would capture detailed qualitative data on predetermined aspects of the respondents' information behaviour.

4.10.1 Schedule development

A structured interview schedule was developed to collect additional and alternative "thick descriptions" to complement and triangulate the results from the questionnaire (Denzin, 1989). In early September 2002, the schedule was pilot-tested among a convenience sample of 4 MBAs of the University of Botswana. The pilot study yielded many useful suggestions that were subsequently incorporated to strengthen the content of the schedule. The schedule was structured in a "funnel" pattern to aid respondents to move from general issues to more specific incidents of information seeking. All questions were open-ended to allow interviewees to give candid and vivid descriptions in their own words. Being open-ended also enabled the investigator to make numerous probes as and when desirable. For a copy of the schedule, see Appendix D. What follows is a brief description of the interview sample.

4.10.2 Sample

The sample for interviews comprised 11 self-selected CEOs of firms in each of the various sub-sectors covered by the survey. However, only one respondent was an exception to this rule; the respondent was selected via convenience sampling. For this study, executive participation was solicited through the questionnaire, specifically; question 17 on the survey (see Appendix B) sought the respondents' willingness to be interviewed at a later time. Overall, 29 managers had indicated their availability to be interviewed. Yin (1989) states that there is no ideal size for interviews for case studies. However, he considers 4 to be too little while 10 would overwhelm the researcher with data. Following Yin (1994), a purposeful sample of 9 managers, stratified by sub sector was considered suitable for this phase of data collection. According to Patton (2001), purposive samples are used quite legitimately for research that is qualitative and where the focus is on understanding social situations. Another important consideration was the need to conserve funds and time given the geographic spread of the respondents. The sample consists of both male and female managers, each of the 8 sectors covered in the survey, both small and medium sized firms (see section 6.2 in chapter six). In the next section, we describe strategies undertaken to maximise the gathering of interview data.

4.10.3 Training

To compensate for lack of dedicated formal training in interviewing skills training, the interviewer spent at least 10 hours of direct and sustained personal observation of Channel Four News and BBC World News respectively. The presenters of these programmes, Jon Snow and Tim Sebastian respectively, are regarded as world-class interviewers and as such their programmes are rich teaching aids of interviewing skills.

4.10.4 Conduct of interviews

Personal interviews were conducted with three specific objectives:

- To obtain first-hand rich qualitative accounts from the managers' of actual instances of acquiring information and using information.
- To ask respondents to give detailed accounts of their patterns of information seeking.
- To complement and crosscheck the validity of the results from the survey.

The interview format was based on the focused interview (Merton, Kiske, Kendall, 1956; Judd, Smith and Kidder, 1991; cited in Choo, 1993) and Morgan (1998). The focused interview concentrated on critical incidents (Flanagan, 1954; Martin and Lancaster, 1981; Moenaert and Souder, 1996) related by the respondents in which they recently received and used external information in some significant way. In addition, respondents were asked to explain certain patterns of their information seeking behaviour that emerged from an analysis of their questionnaire responses. Selected managers were contacted by telephone to make appointments and were asked to schedule at least an hour for interviews. At the start of each interview, the researcher asked for permission to tape-record the proceedings. Each respondent was told that there was no right or wrong answer but their opinions mattered most. Next, using the schedule, the interviewer asked a series of questions about the manager's firm and later the managers' information behaviour. Each interview lasted approximately 50 minutes. A "funnel approach" was used in the interviews. First, the general nature of the business was discussed along with reasons for starting the business and other general issues. This set the stage for a non-threatening discussion of the main subject. Emphasis was placed on developing rapport between the interview and the owners/managers. Eventually, the owners/managers were asked to describe two recent incidents of information seeking. The respondents' keywords and phrases were noted. No tangible incentives were offered. However, the respondents were profusely thanked and assured about the confidentiality of their answers. They were also promised a copy of the research project is they so wished.

After the data were gathered, the tapes of each interview were transcribed and the contents compared with the extensive notes taken by the researcher. Data from interviews were used together with documentary evidence (Yin, 1994) and insights gathered from conversations (natural field interviews, Fontana and Frey, 1994) with managers at the Gaborone Trade Fair in August 2002 to construct case studies of 9 firms. A full discussion of these results is the sole subject of chapter 6.

4.11 Chapter summary

This chapter has reviewed various data collection methods available and frequently used in managerial information behaviour research. Due to the perceived overall benefits of mixed methods approach, and more importantly to the nature of our research questions, questionnaires and interviews were eventually chosen as our data gathering techniques. Accordingly, we adopted a three-phase design approach consisting of: pilot study, survey and personal interviews. Also, we described: (1) the concrete procedures undertaken to design our data collection tools; (2) sampling procedures for both survey and personal interviews; and (3) and the administration of questionnaires and interviews.

The next two chapters seek to make sense of both data sets thus generated. Chapter 5, which follows unravels the quantitative data while chapter 6 tackles qualitative data set.

Chapter 5 - Results of the Mail Questionnaires

5.0 Introduction

The intent of this enquiry was to combine a multi-method approach to investigate the information needs and information seeking behaviour of SME executives at the helm of manufacturing firms in Botswana, with the fundamental objective of the study being to accurately and empirically describe the emerging context and work-related information behaviour patterns. Quantitative data were gathered via structured mail-questionnaires sent to CEOs of each of the sampled firms. Upon collection, data were: (1) cleaned and edited for completeness, accuracy and consistency; (2) coded to facilitate entry into a machine readable form and; (3) entered into what is now the most widely used survey analysis package, the Statistical Package for Social Sciences (SPSS) version 10.11. SPSS is a dedicated survey analysis package for the social sciences, education and humanities available on the familiar windows format. Compared to spreadsheets and other statistics packages, SPSS has several advantages. First, it can easily handle categorical data. Second, it performs cross-tabulations with ease. Third, it can easily and speedily produce a range of tables, charts, and histograms, *inter alia*, which can be edited and copied to other applications. Lastly, it is easy to learn and there are many excellent texts on it (e.g., Bryman and Cramer, 1999; Norussis, 2000; Kent, 2001; Antonius, 2003). The purpose of this chapter is to present a description of the questionnaire survey data.

5.1 Analysis Procedures

Savolainen (1995), an exponent of information in context studies, cautions that quantitative analysis tends to de-contextualise the data. In a similar way, Kelly and Ibrahim (1991) eloquently express the need for contextual description in the following way:

> Executive behaviour studies are often reported as if they were in fact, scientific. Perhaps it is more realistic, though to think of them as an art form. For example, what the researcher chooses to admit is hardly less important than what he excludes. Perhaps it would be better if students of executive behaviour, like biographers, could provide us with a synthesis of all the facts about the friendships, conversations, dress habits, tastes, food preferences and finances of their subjects so that this information could be taken into consideration when we study the patterns of behaviour and interaction of that particular executive...(Kelly and Ibrahim, 1991:34)

Given that the main objective of the study reported here is to empirically describe the contextual information behaviour of executives to highlight emerging trends and patterns, and following suggestions of the above scholars and many others, (e.g., Lewis, 1982; Conveyers, 1989; Lomax *et al.*, 1999), our survey data are presented largely as basic descriptive statistics namely, frequencies, means, modes, standard deviation and ranges. These statistics are particularly suitable for presenting data from a cross sectional survey when no formal hypotheses are being tested (Bryman 2001). Our analysis is organised as follows:

- Responding business sectors
- Non-response rate
- Profile of survey respondents and firm characteristics
- The information needs of CEOs
- Extent of information seeking and information sought.
- Sources of information utilised by SME managers.
- Determinants of information source selection.
- Uses to which managers put information.
- Summary of survey findings.

5.1.1 Responding business sectors

A total of 400 questionnaires were sent to a sample of SME managers of manufacturing firms drawn from the most comprehensive database on company information in the Republic of Botswana: *The Manufacturing Company Database 2001*. Altogether, 233 questionnaires were returned. Of the 233 returned questionnaires, 5 were excluded because they did not meet the sampling criteria and 8 were discarded because of substantial missing data, leaving 216 useable surveys, and thus resulting in a response rate of 54% (see table 5.1 below).

Our response rate of 54% is low considering the strategies taken to optimise the return rate. However, when contrasted with the vast majority of prior surveys of small firms, our response rate far exceeds the minimum often realised. McDougall *et al.* (1994) received a response rate of 11 percent in a study of technology-based manufacturing firms. Likewise, Chandler and Hanks (1994) achieved a 19 percent return rate in a study of new manufacturing firms. In fact, most researchers suggest that a response rate of 40-50 percent is acceptable for managers, bearing in mind their time limitations and consequent notoriety for not responding to questionnaires (Kerlinger, 1973; Gibb, 1984). Hakim (1987) suggests that response rates for organisation studies can drop to even 10%, while Kent (2003) recommends 30% response rate as realistically acceptable nowadays.

Table 5. 1 Response rates according to sub-sectors

Sector	BSIC	Survey sent	Survey returned	Response rate
Bakery products	1541	50	26	6.5
Grain milling	1530	50	15	3.75
Textiles	1700	50	32	8
Clothing and apparel	1800	50	35	8.75
Tanning and leather	1910	50	22	5.5
Wood & wood products	2000	50	19	4.75
Non-metallic products	2620	50	30	7.50
Fabricated metal	2800	50	37	9.25
Total	8	400	216	54

The table above depicts a breakdown of survey response according to sub-sectors. As can be seen in the table above, our sample does not represent a broad cross section of the entire manufacturing industry. The manufacturing industry in Botswana is quite diverse, ranging from SIC 1510 (meat and meat products) through SIC 3700 (recycling, processing of metal and non-metal waste). Consequently, it would not have been practicable to select a fairly representative homogeneous sample for the whole gamut of the sub-sectors involved. The sample aims to be illustrative of the sectoral variation rather than being truly representative of the SME manufacturing population as a whole. In any case, having a representative sample in an exploratory survey is of less significance than in an explanatory survey (Malhotra and Grover, 1998). This is because exploratory surveys are generally used to formulate propositions, which can be tested in further research. The objective of an exploratory survey such as in this study is not to make generalisable conclusions about the phenomenon being investigated. However, notwithstanding the above argument, and as evidenced by the SIC codes, an effort was made to ensure that the sample covered firms that are not only significant in the industry but would also exhibit information needs. Additionally, by and large, the sampling approach used in this study is preferable because all the firms are confronted with the same tax system and other environmental forces that tend to condition them in the same way.

5.1.2 Non-response bias

When response rates are not high, it is essential to verify if the sample is indeed free from significant non-response bias (Armstrong and Overton, 1977). In this study, we took two specific steps to test for non-response: (1) polling non-respondents to assess the reasons for non-response and checking if factors specific to our study accounted for the modest response rate; (2) we systematically checked for non-response bias by comparing respondents with non-respondents.

A standard protocol was also developed to structure the telephone conversation so as to ensure that the questions posed to the participants were similar. The questions focused on the reasons for non-response, the relevance of our survey to the organisation and whether the organisation's address appeared in the manufacturer's directory. The major reasons for non-response were: (1) large number of surveys received by them (21%); (2) company policy not to respond to surveys (24%); (3) lack of interest in the subject (30%); (4) lack of time due to other commitments (14%) and (5) no perceived immediate monetary benefits to the firm (18%). These results suggest that the significant reasons for non-response are not related to this survey and represent a more prevalent general trend, which is also pervasive in the literature (Lewis, 1982; White, 1984; Roberts and Clifford, 1986; Chalmers, 1995). For instance, Bryman (1988) suggests that a possible reason for low response rates is the mushrooming of requests for companies to participate in such surveys.

When respondents (233) were compared with non-respondents (167), no significant differences emerged among managers with regard to the variables of firm size, location and business sector. Table 5. 1 above clearly shows that, save for grain milling and wood products, the response rate did not vary much across sectors providing further evidence of absence of significant bias.

5.1.3 Profile of survey respondents

Section A of the questionnaire (see Appendix B) included questions that collected background information on the SME managers and the responding firms. These data constitute the substantive material for analysis in the ensuing sections, 5.1.3 through 5.10. The multivariable table below (Table 5. 2) depicts the socio-demographic characteristics of the survey respondents: age group, gender, educational level and experience as owner/manager. In the following sections, we discuss each of these aspects in turn.

Evidence from extant entrepreneurial literature suggests that self-employment becomes an increasingly attractive option as one nears middle age. The table below clearly illustrates this point. As can be seen in the table, respondent's ages ranged from 25 to 65 and the largest proportion (37.7%) of the respondents was in the age range of 36-45. Additionally, respondents were biased towards the age ranges of between 36-65, and away from the under 25s and over 65s.

In relation to gender, our sample was predominantly male (79%), a striking although unsurprising demographic characteristic that reflects the composition of the larger business sector in the country as a whole. Consequently, only (21%) are females.

The highest educational levels attained by respondents varied considerably as follows: Primary School Certificate (7 or 3.%), Junior Certificate (35 or 16.2%), O' Level (86 or 39.8%), Diploma (40 or 18.5%), Degree (36 or 16.7%) and Post graduate (12 or 5.6%). On the whole though, the data suggest that the educational levels of our respondents are low, the largest proportion (39.8%) possessing a mere O'Level certificate. Not surprisingly, most of the responding executives did not have education that emphasised a business curriculum. This can be understood with respect to Botswana's educational curriculum which largely overlooked business subjects until very recently, and Botswana's citizen empowerment schemes and government low-cost loans, both which seek to attract investors into the business sector (Hudson, 2001). Our sample respondents had been employed at their current firms on average14.67 years and had an average 12 years experience in the manufacturing industry. Four predominant job titles used by the senior executives emerged from the questionnaire responses: Managing Director (38 percent), Director (26 percent), Manager (20) and Chief executive Officer (16 percent),

Table 5. 2: Demographic profile of respondents

Age Group	Frequency	Percentage
- 25	7	1.4
26 - 35	34	15.7
36 - 45	74	34.3
46 - 55	66	30.6
56 - 65	29	13.4
> - 65	10	4.6
Total	216	100.0
Gender		
Female	45	20.8
Male	171	79.2
Total	216	100
Education Level		
Primary	7	3.2
Junior Certificate	35	16.2
O Level	86	39.8
Diploma	40	18.5
Degree	36	16.7
Post graduate	12	5.6
Total	216	100
Years Employed as CEO		
0 – 3	40	18.2
4 – 7	82	37.4
8 – 14	80	36.3
15 – 19	15	6.8
Above 20 years	3	1.3
Total	216	100

5.1.4 Characteristics of responding firms

In this section, we present the descriptive statistics of our responding firms. Our description focuses on: age of the firm, employment size, firm revenues and firm ownership. The table below displays the statistical data.

Table 5. 3 Characteristics of responding firms

Age of Firm	Frequency	Percentage
1 – 3 years	54	25
4 – 6 years	91	42.1
7 – 10 years	46	21.3
11 – 19 years	22	10.2
Above 20 years	3	1.4
Total	216	100
Number of Employees		
10 – 25	180	83
26 – 99	36	17
Total	216	100
Annual Sales		
Less than P100 000	105	56.7
P101 000 – P250 000	39	20.9
P251 000 – P1.5 million	33	17.7
Above P1.5 million	9	4.7
Total	186	100
Ownership		
Wholly citizen	179	82
Joint-venture	27	13
Foreign	10	5
Total	216	100

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Of the firms responding, the largest proportion (30.4%) was in the 4-6 age range. Overall, the sample reveals a skewed distribution towards the ranges between 4-19. Also, it is interesting to note that over three quarters of the responding firms (91.5%) are almost mature, that is, have grown beyond start-up phase. In entrepreneurship literature, firms are categorised on the basis of whether they are starting (start-ups or 0-2 years) or they are fully established (two years and above). Unsurprisingly, the vast majority of the responding businesses had fewer than 26 employees (180 or 83%), with the largest proportion (85%) in the 16-25 employee category. Only 36 (17 %) of the firms were medium-size. The preponderance of small firms in the sample mirrors a more general pattern of firm distribution in the country where medium and large firms are a conspicuous small minority (CSO, 2001). The largest proportion of the responding firms achieved an annual turnover of between P150, 000-P170,000 (£18, 750 - £21, 250). Only a scant 22.5% posted annual revenue in excess of P1million. Regarding ownership, an overwhelming majority of 82% of firms were wholly citizen owned and owner-managed, while the remaining 13% and 5% were joint venture with citizen stake and foreign owned respectively.

Having provided both profiles of our respondents and their firms, we now turn to the substantive questionnaire data that answers our specific research issues. The next section and others that follow are devoted to presenting the questionnaire answers to our enquiries. Each section proceeds to address a specific research question.

5.1.5 Research Question 1: What are the information needs of SME managers?

What are the information needs of SME managers? The question that addresses the first research is question 11 in the questionnaire (see appendix B). Library and information science research while recognising the critical value of information is equivocal about the information needs of managers; some scholars suggest that SME managers know little about their information needs while others argue that their information needs are short-term and problem related (Neelameghan, 1977; Felicetti, 1984; Bennett, 1984; Pieska, 1991; Kalseth, 1993; Vaughn *et al.*, 1996). On the other hand, research from the stream of environmental scanning strongly underscores the need for managers to search for information about issues and events that have the potential to impact on the firm (Aguilar, 1967; Mintzberg 1973; Choo, 1994). In brief, the different information needs of SME managers were identified from the literature and it was therefore deemed desirable for this research project to uncover what types of information SME managers in this sample perceive to be important to them in their work. Respondents were asked to rate on a 4-point scale (where 1 = not important, 4 = very important) how important these types of information were to them. Table 5.4 below summarises the survey responses to the research question.

Table 5. 4 Types of information and their perceived importance by owner/managers

Information Type	Mean	Standard deviation
Customer information	3.48	.548
Competition information	3.42	.627
Economic information	2.88	.823
Technical information	2.64	.868
Regulatory information	2.35	.898
Sociocultural information	2.33	.949

As the above table depicts, a large proportion of the respondents considered customer information to be the most important type of information to them. Next in importance was competition information, with a mean score of 3.42 and surprisingly; economic information occupies a third position of importance with a mean score of 2.88. Regulatory, socio-cultural and technological information were the least rated respectively. A noteworthy feature of the data in the table above is the sharply contrasting standard deviation scores for customer information and sociocultural information. With respect to customer information the low score of the standard deviation statistic bolsters our finding as it suggests low dispersion from the mean score whereas the high standard deviation for sociocultural information suggests that there was a degree of equivocality among the respondents with regard to their rating of that type of information.

5.1.6 Research Question 2: How much time do SME managers devote to information seeking?

How much time do SME managers devote to active information searching? Having considered the sorts of information perceived important by SME managers, the next step was to find out if at all managers in the sample devoted time to search for external information. Thus our next research question focused precisely on time devoted to information seeking and answers question 12 (see Appendix B). We found that the literature on SME managers' information behaviour is equivocal in respect of the above research issue. On the one hand, SME managers are portrayed as information-unaware and operating in a time-compressed environment (Kench and Maguire, 1974; Gibb, 1984). On the other hand, their organisations are projected as naturally afflicted by resource limitations, both financial and human (Kinni, 1994; Barrier, 1995). Consequently, managers can ill-afford the luxury of allocating time for information seeking themselves or engaging someone else to perform it on their behalf (Smeltzer *et al.*, 1988). We therefore sought to discover if indeed these top executives devoted some time to seeking external information. Question 12 in the survey instrument asked respondents to indicate the amount of time in minutes and hours, actively spent on information acquisition per week. Sample answers to this question are presented in table 5.5 below.

Table 5.5 Time spent on active information seeking.

	Frequencies	Percent
Between 1-3 hours	76	35
Between 4-7 hours	113	52
Between 8-11 hours	27	13
Between 12-19 hours	6	2
Total	216	100

The table above reveals an interesting but important finding. Because the theoretical literature presents SMEs as resource poor (Welsh and White, 1984; Barrier, 1994; Kinni, 1995) and their chief executives as having extreme time limitations (Gibb, 1984), one would have logically expected devoting time to information to be a luxury that can be dispensed with. Conversely, the results, as is evident in the table, demonstrate that over three quarters (87 percent) of the respondents spent approximately between 1 and 7 hours weekly on active information acquisition. Additionally, overall time spent on information seeking totalled 1080 hours per week; thus giving an approximate mean score of 4.86 hours weekly, and a range of 1-14 hours. Taken together, these findings suggest that the SME managers in this study spend a significant time seeking information. While this finding is unanticipated, it is nonetheless consistent with some prior related studies. Johnson and Kuehn (1987) found that small business owner/managers spent more time searching for information than their larger firm counterparts. Other environmental scanning studies have documented that SME managers do engage in the systematic search of external information (El Sawy, 1985; Specht, 1987; Smeltzer *et al.*, 1988).

5.1.7 Research question 3: Which types of information do SME managers spend time searching?

Which types of information do SME managers spend time searching? The next research question was a follow-up to the previous one. Premised on the existence of different types of information that may be of importance to SME managers, the research question sought to uncover for which types of information managers in the sample spent time searching. The research answers question 13 in the survey (see Appendix B). Respondents were asked to indicate their extent of seeking specific types of information on a four-point scale (in which 1 = never, 2 = rarely, 3 = moderately, 4 = frequently). Table 5.6 below presents a summary of replies that were received.

Table 5.6 Types of information SME managers spent time seeking

Type of information	Mean	Standard Deviation
Customer information	3.37	.611
Competition information	3.19	.615
Economic information	2.43	.824
Technical information	2.32	.843
Sociocultural information	2.14	.843
Regulatory information	2.12	.844

As the above table clearly indicates, we see a very striking feature. Data reveal that customer and competition information are the types of information that most managers in this study spend time gathering with mean scores of 3.37 and 3.19 respectively. We see a correspondence between the data here and the data about the types of information that SME managers rate to be important. However, here technological information replaces economic information as the types of data that managers spend time seeking (see table 5. 4 above). A feature of this data that merits highlighting is the low standard deviation statistic for customer and competitor information and progressively high scores for the subsequent information types. As discussed under the Research Question One, a low standard deviation corroborates the finding in question whereas a high one suggests a degree of variability in terms of respondents' ratings.

5.1.8 Research Question 4: Which sources do managers utilise to obtain information?

Which sources do managers utilise to obtain information? The fourth research question sought to establish which sources of information managers frequently utilised. Empirical literature suggests that managers, by virtue of their positions, have access to myriad sources of information. These sources are personal and impersonal, external and internal (Aguilar, 1967; Mintzberg, 1973; Keegan; 1974; Culnan, 1983; Daft *et al.*, 1988; Auster and Choo, 1993). Question 14 in the survey (see appendix B) answers the above research question. Respondents were asked to rate their utilisation of ten sources on a four-point scale (in which 1 = never, 2 = sometimes, 3 = frequently, 4 = very frequently). The list of sources given in section C of the survey was based on relevant earlier research but was adapted and shortened so as to avoid making the questionnaire lengthy cognisant of the respondent's generally busy schedules (see section 1.2 in chapter one). Nonetheless, we included libraries and electronic sources to the more traditional sources of managers. Table 5.7 below presents a summary of responses.

Table 5.7 sources utilised by SME managers.

Information source	Mean	Standard deviation
Customers	3.38	.573
Newspapers periodicals/mag	3.29	.717
Business associates	2.93	.698
Broadcast media	312	.780
Government Officials	2.69	.906
Competitors	2.27	.8.38
Government Publications Trade and	2.27	.838
industry ass.	2.10	.798
Electronic sources	1.45	.805
Libraries	1.42	.634

Not surprisingly, the data reveal a preference for customers as the most frequently utilised source of information. We can also discern three noteworthy features of this data: (1) newspapers/periodicals/magazines and broadcast media feature prominently among the sources preferred by SME managers in the sample; (2) SME managers make use of both personal (customers, business associates, government officials, trade and industry associates and competitors) and impersonal sources (newspapers/magazines, broadcast media, government publications, electronic sources and libraries); (3) libraries and electronic sources are scarcely used by managers in this sample. This is particularly surprising for the latter, given the information technology (IT) era that we are in. However, for the former, this finding is not unexpected, as previous studies have obtained a similar result (Trott and Martyn, 1986; Marcella *et al.*, 1996; Vaughn *et al.*, 1996).

5.1.9 Research Question 5: What factors largely influence source selection?

Which factors largely influence source selection? The fifth research question investigated the main factors that greatly influence source selection by SME managers. Source selection by SME managers is not a haphazard activity. In fact, both conceptual and empirical literatures suggest a broad range of factors on which managers base their selection decisions (Paisley 1966; Rosenberg, 1967; Allen, 1977; Hardy, 1982; Rouse and Rouse, 1984; Davis, 1989). Among these factors are: perceived usefulness, perceived ease of use, accessibility, reliability, quality and relevance). Question 15 in the survey (see Appendix B) addressed the above research question. Respondents were asked to indicate the factors that they deem to be important determinants of their source selection by circling the relevant factor(s). Table 5.8 below presents frequencies of the replies.

Table 5.8. Determinants of source selection

Factor	Frequency	Percentage
Accessibility	199	90.5
Ease of use	195	88.6
Relevance	136	62.7
Reliability	134	60.9

Note: percentages do not total 100 because respondents could indicate each of the factors.

As can be seen on the above table, a large proportion of respondents based their source selection on access (90.5%) and ease of use 88.6%). Conversely, relevance and reliability do not feature prominently in the source selection equation although admittedly, they play an important part too given their respective high scores of (62.7%) and (60.%). That is, these factors seem to have a synergistic effect in influencing source selection.

5.1.10 Research Question 6: To what use is the information put?

To what uses is the information put? The final research question sought to unearth the uses to which information is put that SME managers acquire from the various sources. As in the previous research question, this question was premised on the notion that information need and information seeking and utilisation are goal-directed activities. Empirical literature lends supports to this line of reasoning. Extant studies suggest that information is the raw material for decision-making (Aguilar, 1967; Mintzberg, 1973; Auster and Choo, 1994). Decisions can assume three different types: strategic, tactical and operational (Scott-Morton, 1971), whereas in the Mintzbergian schema, these can be categorised into four roles: entrepreneur, allocator, disturbance handler and negotiator (Mintzberg, 1973) (see chapter two for a detailed discussion). Other studies especially from organisational psychology and management suggest that information can be acquired to keep managers abreast of events outside the firm's environment (Aguilar, 1967). Thus, we sought to explore what actually are the uses to which SME managers put the information. Question 16 on the survey (see Appendix B) addresses the above research question. Respondents were asked to indicate the uses to which they put the information they acquire from sources by selecting from: to know about the business environment, to make important decisions and for day-to day decisions. The table below depicts the uses to which managers in the sample put information.

Table 5.9 Uses made of information acquired from sources.

Reason	Frequency	Percentage
To make important decisions	205	94.2
For day-to-day operations	170	77.3
Learn about business environment	135	61.4

*Note: Percentages do not total 100 because respondents could indicate all reasons.

As is evident from the table, a very high proportion of the sample used the information acquired for decision-making. However, the other two reasons of learning about the business environment and making day-to-day decisions received significant percentages of 61.4% and 77.3% respectively. This points to the intertwined nature of information use as a managerial activity and suggests that the other reasons also benefit immensely from the information acquired by managers.

5.2 Further Analysis

According to Hambrick and Mason (1984), two prominent scholars on executive behaviour, age and education are important variables that indicate an individual's flexibility and risk taking propensity. Prompted by this reasoning, an attempt was made to uncover further patterns that are relevant to CEO information behaviour. Specifically, we concentrated on gender, age and education. The sections that follow present cross-tabulations of information seeking and the variables of gender, age and education.

5.2.1 Gender and Information Seeking

While this study does not view gender as playing a deterministic role in influencing information seeking, it nonetheless subscribes to the notion that there is merit in exploring if there is a pattern worthy of further investigation. We thus sought to unearth such a pattern by performing cross-tabulations of gender and information seeking. Table 5.10 below depicts the results.

Table 5.10 Gender and information seeking

Respondent's gender	Time spent on information seeking				Total
	2 - 3 Hours	4 -5 Hours	6 - 7 Hours	8 - 9 Hours	
Female	17	19	7	2	45
Male	53	55	30	18	156
Total	70	74	37	20	201

Consistent with standard statistical practice, we made a decision to drop outliers to avoid them confounding the results, i.e. extreme cases such as an individual spending 19 hours per week on information seeking. What emerges from the data is a clear trans-gender pattern of concentrated information seeking occurring between two and seven hours. In percentage terms, this would translate to 21% and 90% for women and men respectively. Our sample is heavily skewed towards males; therefore it would be instructive to probe if gender has any mediating effect on information seeking using a homogeneous sample.

5.2.2 Age and Information Seeking

Likewise, the variables of age and respondents' information seeking were subjected to a similar process of cross-tabulation to unravel the existence of any patterns. Table 5.11 below presents the results of this process.

Table 5.11 Age and Information Seeking

		Age group of respondent				Total
		25-35	36-45	46-55	56-65	
Time Spent seeking information (Hours)	2	5	14	9	0	28
	3	9	12	9	9	39
	4	6	11	17	5	39
	5	2	14	10	4	30
	6	1	10	10	2	23
	7	2	5	5	2	14
	8	1	3	4	4	13
Total		27	69	64	26	186

As in the previous table, outliers were dropped to minimise confounding affects; e.g. the entire age range of 'less than 25' was dropped because there was only one case. What emerges from these data is a consistent pattern of intense information seeking in the time range between two and five hours across the respondent age groups.

5.2.3 Education and Information Seeking

Finally, we turned attention on to information seeking and the education of the respondents to explore if there was potential for a relationship. Table 5.12 below depicts the data.

Table 5.12 Education and Information Seeking

		Education of respondent						Total
		Primary	Junior Certificate	COSC	Diploma	G	PG	
Time spent seeking information	2	1	4	14	4	5	0	28
	3	1	7	20	9	3	2	42
	4	1	8	12	12	7	2	42
	5	1	5	11	4	7	4	32
	6	1	5	10	4	4	0	24
	7	0	0	7	1	5	0	13
	8	0	2	7	2	2	4	17
Total		5	33	81	36	33	12	198

What is evident on the above table is that 85% of the information seeking is concentrated between two and six hours and this seems to cut across the educational divide although the distribution of our sample is clearly uneven.

Taken as a whole, the results of the cross-tabulations do not seem to suggest that the variables of gender, age, and education have an important or deterministic effect on the sample in this study. Of course we are mindful of the fact that our sample is far from being homogeneous in so far as the variables under review are concerned. However, this is not to suggest that these variables have no effect on information seeking per se. On the contrary, they probably have a synergistic effect, i.e. each does not work alone but works in concert with others. Appropriate tests in studies that seek to test hypothesis would be better placed to scrutinise this phenomenon. What the results of the cross-tabulations do tell us is to amply corroborate and bring to the fore the finding that the great majority of respondents in this survey spend between one and seven hours on information seeking (see research question 2). In so doing, they provide a firm rebuttal of the pervasive notion that resource limitations severely constrain SME managers' information seeking.

5.3 Summary of Survey findings

The purpose of this study was to investigate the information needs and seeking behaviours of SME managers in the manufacturing industry of Botswana. More specifically, we examined five research questions: (1) which types of information do SME managers consider important; (2) how much searching of external information do managers do; (3) which types of information do SME managers spent time seeking; (4) which information sources are utilized by SME managers (5) which factors influence information source selection; and (6) in what ways do managers use the acquired information. In essence, our research questions attempted to capture the information behaviour of SME managers. We summarise the study's findings in relation to the research questions posed. Our analysis of postal survey data produced the following noteworthy findings:

Socio-demographics

In this investigation, most respondents were unsurprisingly male, 171 (79.2%) and were biased toward the age ranges of 36–55. Overall, their educational levels were, as expected considerably varied but preponderantly low, with a large proportion 86 (39.8%) possessing only an O'Level. In terms of managerial experience, on average, the managers had been in their jobs for 12 years. Managerial experience ranged from 1 to 20 years and the most dominant title was that of manager with 26 (42%).

Firm Characteristics

The responding firms represented 8 sub-sectors of the diverse manufacturing industry: bakery products, grain milling, textiles clothing and other apparel, tanning and leather, wood and wood products, non-metallic products and fabricated metal products. A large proportion of the firms (145 or 67%) were young, with ages ranging from 1 to 6 years. As expected, 180 (83%) of the firms were small firms with employees ranging between 10-25. The average annual sales were approximately

P150, 000 (approximately £18, 750). With respect to ownership, the vast majority (83%) of firms were wholly citizen-owned while the remainder were joint venture (27 or 12.%) and foreign owned (10 or 5%) respectively.

Research Question 1

The first research question addressed the information types that SME managers consider important (their information needs). Two types of information, customer information (mean score 3.48) and competition information (mean score 3.42) emerged as the most highly rated types of information. On the other hand, the managers rated socio-cultural and regulatory information as least important with low means scores of 2.35 and 2.33 respectively.

Research Question 2

The second research question assessed the extent to which the sample managers searched for information. Our analysis of data revealed that the SME managers devoted approximately 4.86 hours to information seeking per week. A total of 189 (87%) or (over three quarters of the respondents) spent roughly between 1 and 7 hours searching for information and durations of actual information seeking ranged between 30 minutes and 19 hours per week.

Research Question 3

Logically stemming from the previous research question, this question probed the actual types of information that sample managers spent time seeking. The data suggest that SME managers in this study spend most time seeking customer information (mean score 3.37) and competition information (mean scores 3.19). Again regulatory information and socio-cultural information appear to attract the least time from managers with respective low mean scores of 2.22 and 2.14 respectively.

Research Question 4

The fourth research question related to sources of information utilised by SME managers to satisfy their work-related information needs. The findings emerging reveal that SME managers use a mixture of both personal and impersonal sources of information, with customers (mean score 3.38) and newspapers (mean score 3.29) the most utilised sources. On the other hand, libraries (mean score 1.42) and electronic sources (mean score 1.45) were the least utilised sources.

Research Question 5

The fifth research question centred on the factors that influence the selection of information sources. Data suggest that when sample managers use information sources, source selection is largely influenced by accessibility (90.5%) and ease of use (88.8%). However, other factors also appear to exert a strong influence as evidenced by the high percentages of reliability (61%) and relevance (63%). That is, overall, source selection would appear to be a product of several factors working in a synergistic fashion.

Research Question 6

The final research question addressed the uses to which sample managers put information acquired from a variety of sources. Data revealed that the great majority (over three quarters) of the respondents (205 or 94%) use the information for making important decisions in their firms. However, the other tasks of learning about the business environment and making day-to-day decisions, also attract a sizeable amount of usage: 170 or 77% and 135 or 61% respectively. This finding could point to the complexity of the intertwined nature of these issues.

Having painted a quantitative picture of the information behaviour patterns of executives, our next task is to gain an in-depth understanding of the emerging patterns from field interviews. Thus, in the ensuing chapter, we turn our attention to analysing interview data.

Chapter 6 - Results of Personal Interviews

6.0 Introduction

In line with the study's research design, the second stage of the research concerned gathering in-depth qualitative data via face-to-face interviews from a self-selected convenience sample of SME managers (n=9). The aims of these interviews were threefold: (1) to gather in-situ (contextually-grounded) first-hand, real-life verbal conversations of critical incidents of information acquisition and use by SME managers, (2) to cross-validate data obtained from the survey, (3) to follow-up issues raised in the survey with a view to amplifying them. An indicative list of interview themes and questions can be found at Appendix D. A critical incident technique in the pioneering Flanagan tradition (Flanagan, 1954) was used to collect descriptive data. In a method analogous to the one used by Keegan (1974), Conyers (1989) and Auster and Choo (1994), the respondents were asked to recall two recent incidents during which they sought and utilised information in some significant way. The rationale for this approach was that respondents would be able to recall recent incidents which, if well described, would reveal patterns of information acquisition and give us thick first-hand descriptions (live excerpts from the setting) illuminating the in-situ information behaviour of these top executives. The CEOs were interviewed over a four-month period. This chapter presents the results of the face-to-face interviews and is organised into nine sections as follows:

(1) Analysis procedures
(2) Profile of interview respondents
(3) Information about VAT and CEDA
(4) Description of case studies
(5) Analysis of critical incidents
(6) Relative importance of accessibility and ease
(7) Role of Libraries
(8) Use of electronic
(9) Chapter summary

6.1 Analysis procedure for interview data

Lofland (1971:4), a leading advocate of fieldwork, stresses that fieldwork must rely on four qualities: 'a commitment to get close to the data and be factual, descriptive and rely on quotations in order to represent the participants in their own terms'. Likewise, the pioneers of the *Grounded Theory*, Glaser and Strauss (1967), put forward the notions of 'accurate description and saturation in discovering theory from data and developing grounded theories'. Similarly, Gertz (1973) goes further to introduce 'thick descriptions' and states that the 'researcher must read the data and look for interpretations that satisfy the subjects under investigation' (Gertz, 1973: 452). Following these general suggestions our qualitative data were flexibly analysed to illuminate detailed descriptive narratives in-situ. Standard techniques for qualitative data analysis were employed following the guidelines of classical works of Miles and Huberman (1994), Yin (1994) and Glaser and Strauss (1967). Specifically, interview data were collated, summarised, content analysed and detailed descriptions prepared to each interviewee under the subheadings in Appendix D. The end objective was to build a case study for each interviewee.

The analysis technique chosen is consistent with the study's objective in that it attempts to capture the information needs and information seeking behaviour of executives in their natural context. In so doing, it enables us to illuminate and better understand the reasons behind important aspects of information behaviour.

In the first part of the interview, respondents described how they obtained information relating to two watershed incidents that took place between January and July 2002: the introduction of VAT and CEDA (described earlier in chapter 3). This approach improved the respondents' recall of their information acquisition behaviour while collecting in situ, real-life data on communication incidents germane to the contexts. Another virtue of this technique was enhancing the internal validity of the data.

Next, they were asked to recount two incidents of obtaining important information. Respondents were further requested to provide details about the issues that the information addressed as well as the sources of information they utilised. On the basis of the emerging textual data, small case studies of critical incidents were created. The incidents are analysed qualitatively using the techniques of noting "patterns and themes and clustering" as articulated in the classic works of Miles and Huberman (1994). In pattern recognition, attention focuses on recurring patterns and themes in the critical incidents reported by respondents. On the other hand, in clustering, the key activity is to group together entities and then conceptualise those entities that have similar characteristics. On the theoretical front, following Choo (1993), we used Mintzbergian schema of managerial roles to 'pattern and cluster' the reported incidents (Mintzberg, 1973: 97). In brief, each incident reported is summarised in terms of the substantive information received, the information sources utilised and the type of decisional role for which the information was used. From the resultant data, we are able to paint emerging patterns of information behaviour among the types of decisional roles and the information sources used by respondents.

The second part of the interview was largely about explanations of certain discerned patterns emerging from the questionnaire data. The questions posed were specifically targeted to each respondent based on prior analysis of the questionnaire responses. Questions centred on issues such as why certain types of information were preferred, information sources used, amount seeking information and determinants of source selection. Answers to these questions were integrated into the analysis of critical incidents.

6.2 Profile of Interview respondents

The sample selection was constrained by entry, research funding, travel time and the firm's potential interest in the research project. From a total 23 respondents who had earlier indicated their willingness to be interviewed, only eleven (11) were eventually contacted for interviews. However, one interview was marred by site interruptions while the other was affected by adverse weather condition. Consequently, they were both excluded from the analysis. As can be seen on the table below, 9 CEOs were interviewed and as expected, all but two were males. Their ages ranged from 39 to 59 years with an average age 48.2 years. As expected, education qualifications attained varied widely as follows: Primary with in-service courses (1 or 11.1%), Junior Certificate (1 or 11.1%), O'Level (2 or 22.2%), Graduate (2 or 22.2%) Postgraduate (3 or 33.3%). On average, the top executives had been at the helm of the firm for 12.5 years and their managerial experience ranged from 4 to 25 years. The respondents had a range of previous functional backgrounds: designer, accountant, engineer, human resources manager, marketing manager and carpenter. Finally, in aggregate terms, the SME managers presided over firms with annual sales in excess of P1.2 million. Five of these firms were small companies while the remaining four were medium-size. Table 6.1 below summarizes the demographic data of our interview respondents. Following the University of Strathclyde Research Ethics Policy relating to human subjects, all the names of respondents and their firms have been disguised to ensure anonymity and confidentiality.

Table 6.1 Profile of firms and CEOs interviewed

CEO's Name	Business	Sales/ Employees	Age of CEO	Years as CEO	Previous Function	Highest Education
Ashes	Nectaco	P250, 000 10	48	10	Engineer	B Eng.
Bill	Tyco	P1.2million 44	39	5	Marketing manager	MSC
Cass	Starco	P980, 000 50	48	17	H/Resources manager	O'Level
Darcy	Bupico	P1.2million 30	44	16	Marketing manager	Bachelor of Commerce
Elsie	Demco	P500, 000 26	44	12	Sales person	O'Level
Festa	Nordico	P1.1million 22	53	10	Business Administration	Bachelors Degree
Gala	Mangoco	P1.4million 40	46	11	Marketing manager	MBA
Hass	Mambo	P890, 000 24	59	23	Carpenter	Junior Certificate
Ike	Jetco	P130, 000 20	47	25	Designer	Primary

6.3 Sources of information on VAT and CEDA

In order to create the much-needed rapport with respondents (Trull, 1964), we innovatively used two recent contrasting historic events whose introduction had dramatic effects on the business landscape in Botswana. These events concerned the introduction of CEDA (a finance opportunity) and a major reform of the tax system, VAT (a cost burden), introduced in 2001 and 2002 respectively. The former event generated a great deal of entrepreneurial fervour among business owners and even the rank and file citizens because of the low-cost loans it guarantees. Two months after inception, 265 applications worth P158.8 million had been approved, while 463 applications amounting to P175million had been turned down (Bungu, 2002). Upon its introduction, VAT latter fuelled a dramatic price increase, propelling inflation from single to double-figures and resulting in the Bank of Botswana raising the prime rate from 14.25% to 14.75%. Shockwaves from the early July announcement of VAT reverberated across the nation, from urban centres to the remote countryside (Bungu, 2002). More importantly to this study, these events were deemed to be still vivid in the memories of respondents. It was therefore reasoned that by first asking respondents a familiar question, we would also not only prepare them psychologically for the interview proper but also gather some first hand accounts of germane sources utilised by SME managers. Accordingly, interview respondents were asked the question 'how did you receive information about each of the following events: CEDA and the 10% government value added tax'. Each CEO asked to indicate the sources from which she/he obtained information about each of these events. Thus for example, a frequency of 16 is a combined mention of two sources. Table 6.2 below presents the results to the warm-up question.

Table 6.2 Sources of information on CEDA and VAT

Information source	Frequency	Percentage
Newspapers/periodicals/mags	16	89
Customers	15	83
Suppliers	14	78
Friends	12	67
Business associates	12	67
Family	10	56
Government publications	10	56
Internal staff	8	44
Broadcast media	7	39
Government officials	5	28
Trade associations	4	22
Grapevine	4	22
* Note: Percentages do not total 100 because respondents could indicate more than one source of information		

As revealed by the above table, interview respondents acquired or received information about CEDA and VAT from a wide variety of sources, both internal and external, and personal and impersonal. From the above table, there is no single source of information that occupies a marked degree of prominence as the principal source of information. This suggests that information about the two events was quite widespread. Another noteworthy feature of this table is the inclusion of the grapevine although only 4 respondents mentioned it.

6.4 Analyses of case studies

Consistent with the intent in our research design of using qualitative data as an explanatory based method, we constructed 9 case studies based on face-to-face interviews with nine SME managers. The interview proper began by asking respondents to briefly describe themselves and their firms in terms of their markets and competition in the industry. Next, in earnest, the following key question adapted from Keegan (1974:411) was posed:

> 'Try to recall two specific instances within the last six months, where you personally obtained or received external information, that is, information which concerns events, issues or circumstances outside your company, which was important to you in your job or important to the company'.

Each manager was interviewed and the interviews were transcribed verbatim. In this section, we present the salient features of these grounded conversations with each of the 9 respondents as case studies. More specifically, we try to highlight the following: profile of the manager, business lines, firm and market characteristics, (context in which the CEO and company operate), explanations of patterns and issues arising from the survey. All these data are presented together with the critical incidents as integral parts of the case study. This is to ensure that we capture the context in which the information was sought and utilised, and is consistent with the suggestions of prominent scholars: Lofland (1971), Glaser and Strauss, (1967) and Gertz (1974). Sections 6.4.1 through 6.4.9 are within-case analysis (Eisenhardt, 1989).

Following the University of Strathclyde Research Ethics Policy relating to human subjects, all the names of respondents and their firms have been disguised to ensure anonymity and confidentiality.

6.4.1 Nectaco manufacturers

Nectaco Manufacturers is a company that specialises in the production of a wide range of concrete products including face bricks, blocks, stock bricks, paving bricks, window sills and bricks for temporary structures. The company also markets its own products. It is situated in the northern industrial zone of the city of Francistown. Registered in 1993, the firm has been trading for the past ten years. Its founder and owner-managing director, the 48-year-old Ashes, runs the company. Ashes has a strong background in engineering where he obtained a higher national diploma (HND) and later, a bachelor of engineering (BEng). He was currently working on the final stages of his MBA in business administration with Henley College (UK). Before founding Nectaco, Ashes worked with the national telecommunication corporation for over 15 years, and it was there that he accumulated his vast business/management experience, which he was now putting into practice. The company has a local workforce of only 10 staff and its previous turnover was P250, 000 (£31, 250)

Most of the company's products produced in the plant are sold locally in the town and surrounding villages. The market is presently undergoing a general slump in demand. The company has many major competitors. According to Ashes "there are too many firms trading and too little customers". His products have come under pressure from fierce competition brought about by mushrooming small companies and the big companies. "The large companies are winning the day because they have reputations and resources to deliver products to places where the small cannot dream of going" he said. Because of the heavy nature of his products, and the resultant transport requirements, it is extremely difficult for him to explore markets further in the countryside.

Types of information perceived important

According to the CEO, the most important type of information for his firm is about customers. Without customer information the viability of his business is in doubt. He also needs to have general information on the state of the economy and other developments, which can significantly affect the flow of raw materials. "We obtain cement from South Africa and events in South Africa can easily impact on our business here". He said "as CEO, it is important to understand how our economy is interrelated with other regional economies".

Information seeking incidents

The CEO described himself as an "insatiable consumer of information, reading all these papers: *The Botswana Daily News*, *Mmegi* (*The Reporter*), *The Botswana Gazette*, *The Botswana Guardian* and *The Mid-Week Sun*; every week. He also reads the national Budget Speech at the beginning of February every year. "Personally I do a lot of reading," he said. In addition, he reads other industry specific publications (engineering) and is connected to the Internet (although it is always slow). In view of his habit of reading, he describes himself as a regular information consumer and seeker.

Turning to his specific information seeking activity, the CEO described a recent incident in which he was debating the pros and cons of joining the Botswana Confederation of Commerce and Industry and Manpower (BOCCIM). He was sceptical if there were any significant gains accruing directly to the firm but on the other hand he knew several friends who were members. After some days of indecision he mustered some courage to ask his accountant and two other business friends. To his surprise they all provided a similar answer, encouraging him to join, as this would offer him opportunities to establish business networks with peers and competitors. After a month or so, the CEO sought application forms to join the association. Since joining the organisation, the value of the association has exceeded his expectations.

The second incident that the CEO related concerned targeting up-country customers to bolster his customer base. The CEO conceded that trading in the industry was tough. "We operate in very tight market conditions," he said. According to the CEO, trading has lately been tough and the firm was experiencing cash-flow problems. To make matters worse, excessive absenteeism, especially towards month end was severely affecting production targets and tarnishing the credibility of the firm. The outlook for the future did not look bright either. The recent outbreak of Foot and Mouth Disease (FMD) in the Francistown area had meant that Government suspended some of the major planned construction projects earmarked for the present financial years. Consequently, there were no prospects of big customers.

In view of this challenge, the CEO thought that he had to take a bold step and hunt for new customers elsewhere. Specifically, he wanted to target his home village, situated only 79 kilometres north of Francistown. According to his strategy, he was going to speak to friends, family members and other villagers about his business, emphasising that if they bought materials from him he would deliver to their doorsteps. He would also place some adverts in the local papers and posters in schools and bars. The next weekend, Ashes was in his home village mingling with people in pubs and gathering information by word of mouth.

Due in large part to the strategy initiated, the company has been able to strengthen its market position and has seen a substantial increase in sales. However, this has created a huge demand problem of which, at times, the firm was unable to meet due to small size of the workforce.

6.4.2 Case study 2: Tyco Company

Tyco Pty (Ltd) is a timber firm situated right in the heart of Gaborone's industrial city. The firm was established in 1980, and since then, it has experienced modest growth, doubling its workforce in the last ten years. The firm's CEO is the 39-year-old Bill, who has been at the helm for the past five years. The CEO is a product of University of Botswana where he obtained his junior degree, bachelor of commerce (BCom). He also studied abroad (UK) where he graduated with an MSc in international marketing. Further, he has extensive experience obtained over a career spanning twelve years. The firm's core business is the manufacturing and marketing of timber, roof trusses and fencing materials. "We import about 130 tonnes of timber from South Africa and have treatment facilities to ensure that our products withstand the test of time. We now produce an average of about 110 tonnes of trusses per month," said the CEO. With annual sales of about P1.2 million and 44 employees, the firm is one of the key players in the related industries of manufacturing and construction. According to the CEO, the firm has gained a reputation for producing quality products. The CEO envisages growth in the near future; the market is in a positive mood for many of their products: "With the National Development Plan (NPD 9) about to commence, there will be many construction projects coming up. We should be positioning ourselves to get a large market share. We need to be ready to clinch more tenders" he said.

Responding to the question of what he perceived to be the most important types of information for his firm, the CEO had this to say "I had a 4-month stint as a marketing manager with an exporting firm in Francistown. During that short time, I developed a better understanding of how important information is to the success of profit making companies. All companies operate in a changing environment and there are new firms registering every day. So, I consider all types of information to be very important because we import most of our raw materials from South Africa. As a result it is always crucial to know about what is happening in South Africa (events) or strikes (industrial action) and exchange rate differentials: the CEO said because of his firm's reliance on South Africa, he reads newspapers extensively, "I skim through the pages for business/economic issues". "Sequentially, I would list these types of information as important: customers, competition, economic and regulatory" he said. Tyco supplies a wide range of customers including corporations, government and individuals. The market is extremely competitive, with new companies flooding their products on a daily basis.

The first incident that Bill described related to an initiative he wanted to undertake in order to broaden his firm's customer base. The company was facing stiff competition for its products (timber, trusses) from cheaper imports from neighbouring countries. According to the CEO, competitors were capitalising on the strength of the local currency Pula vis-à-vis other regional currencies. For instance, the Zimbabwean Dollar had reach an all time low because of the crisis ravaging the country.

Faced with this challenge, the CEO was planning to be "aggressive" in the market to broaden his "client-base": nothing could guarantee success for me," he said. According to the Bill, the strategy he had conceived could be achieved by identifying his "important customers and showing them that he cared for them". Next, he set out a dual-pronged strategy: (1) phoning previous customers and asking them if they could be buying in the near future, promising them some promotions, (2) searching for tenders in *The Government Gazette* and other print media.

The second incident that the CEO described related to a problematic employee. One of his employees (an unskilled labourer) had lately been creating problems in the work place and the CEO was of the view that the situation had reached a point where he had to take some drastic action (dismissal). However, being wary of the implication of this action, he wanted to take all the necessary precautions to avoid being drawn into a lengthy legal wrangle. So, he asked the workshop Supervisor if there was any precedent in the firm that could guide him in this delicate matter. The workshop manager told him that he knew of none. Next, the CEO phoned his friend for advice but did not get a concrete answer. He further contacted his accountant about how he could get an "affordable cheap legal expert". In response, the accountant suggested to him that he should try to get a "counsellor" to talk to the employees because the latter option would have no legal implications and would also have saved the employee concerned. According to the CEO, this piece of advice turned out to be very effective.

6.4.3 Starco Textiles

Cass is the CEO of Starco, a textile firm that manufactures and markets a wide range of woven and knitted garments. Its main products are 5 pocket and carpenter jeans, chinos and cargos. The firm, which is strategically located in the Copper Nickel town of Selebi-Phikwe, some 398 kilometres north of Gaborone, has been trading for seventeen years. It was founded with funds from the Government's Financial Assistance Policy (FAP). The 48-year-old CEO, and owner-founder is a citizen entrepreneur who possesses an O'Level Certificate, complemented by a series of short courses in business administration. Cass had over the years accumulated extensive experience in business management and this motivated him to venture into his own business. The firm presently employs some 50 citizens and has a turnover in excess of P980, 000. The main customers for his products are high-street stores, some wholesalers (countrywide) and the general public.

According to the CEO, his business has been experiencing steady growth over the past years. However, recent events suggested otherwise. He outlined two trends that seemed to have brought change: (1) the proliferation of small businesses as a result of Government empowerment schemes (e.g., CEDA,), (2) the influx of new foreign firms, which appear to have superior capabilities in the areas of R & D, marketing, resources and reputation of quality. Consequently, the market is very competitive: "I am sure that there will be many casualties if things continue like this" he said. However, the CEO said he was not entirely despondent. Instead, he was contemplating targeting neighbouring foreign markets rather than be "swept away by competition".

The CEO pointed out for most businesses especially in his sector "the good times were no more. "We are all struggling to stay afloat and there is a battle for the small markets and new entrants are joining every other day," he said. In view of this, I think the most important information for my firm is customers. "Our market is small so once you have some customers you need to roll out promotions to keep them" he said. Other types of information, according to the CEO, are competitors, and taxation information,"Generally, we cannot effectively run our businesses without information: globalisation has changed things in this part of the world" he said.

Information Seeking Activity:

The first instance of information seeking that Cass described concerned his bid to explore export market opportunities especially those afforded by the much-talked-about African Growth and Opportunities Act (AGOA, discussed in detail in chapter three). Recently, the CEO had heard from colleagues, friends and broadcast media (Radio and TV) that the American initiative stood to offer local entrepreneurs some incentive opportunities under the United States Trade Development Act of 2000, which was signed into law by President Bill Clinton African countries were given an opportunity to expand trade with the USA. Thus, AGOA provides quota-free access to all countries of sub-Saharan Africa save Kenya and Mauritius. Furthermore, under AGOA, least developed countries are eligible to export duty free to the American market from a third country until 2004.

Cass asked several trusted business friends about AGOA and obtained very useful bits of information but did not have a complete picture of what he could do as a start. One of his friends had suggested that he try an organisation known as BEDIA (discussed in detail in chapter three), which promotes private enterprises. Next, he made a telephone call and was warmly received. In fact, BEDIA staff told him that they existed primarily for entrepreneurs who wanted to export their products whenever. Cass was thus able to get the kind of information he needed.

The second incident that Cass recalled and described related to obtaining information on available low-cost Government citizen empowerment to help him expand his business. He already had an overdraft facility with one of the high-street banks. Having realised a huge market potential envisaged under AGOA and in the sub region (SADC area), Cass was keenly intent upon an instant expansion of the firm's production area so as to raise production targets two fold. Lately, the print and broadcast media had been awash with stories about a new Government scheme called CEDA. Even local politicians were encouraging their constituencies to make good use of the scheme. Unfortunately, it seemed like CEDA was not yet available in Selibe Phikwe although there was so much talk about it. The CEO decided to contact the ward councillor who told him that indeed, no office had been established to assist people in the town. He advised the CEO to contact CEDA in Gaborone and was told in detail what he ought to bring for his application to be considered.

6.4.4 Bupico

Bupico is a milling medium-sized company situated in the city of Gaborone. It is a joint venture of citizen locals. The CEO, 44-year-old Darcy, has presided over the company for sixteen years now. During this time, not only has the firm captured a sustained market share but has also provided employment to some 30 citizens.

The CEO is a graduate of the then University of Botswana, Lesotho and Swaziland (UBLS) now University of Botswana. He holds a BCom plus several in-service course certificates. His experience in the corporate world spans two decades, having held similar posts with other companies in the north of the country. The firm's core business is the production and sale of a range of milling and confectionery products including baking and cake flour, maize and sorghum meal, and meal-rice. The firm's wide customer range includes government institutions and departments, private corporations, wholesalers and the general public. With annual sales of P1.2million, the firm is one of the burgeoning joint-venture citizen owned SMEs. The firm's products enjoy popularity in and around Gaborone. Nonetheless, according to the CEO, the firm operates in a depressed market where the "demand is small and fluctuates according to seasons and lately, there has been a proliferation of new businesses that are vying for the small market with us" he said. Notwithstanding this, the CEO was pleased with the performance of the firm, which he attributed to a continuous trickle of customers who have seen the firm's good products and service.

The CEO began his answer as follows: "Botswana is increasingly becoming part of the global village. Therefore one needs to have an in-depth knowledge of global events likely to have a bearing on the business". He gave an example of the recent Gulf War and its repercussions on price of oil, which in turn has a ripple effect on the price of goods, raw materials and services within the sub-region and the country. Because of the importance of these developments, the CEO reads widely and skims all local papers for business news. Specifically for his sector/business, he considers the following kind of information to be important: customers, competitors, and economic and regulatory information.

The first incident of information seeking the CEO described concerned identifying an expert counsellor to come and address his staff/employees as part of the firm's response to the HIV/AIDS pandemic (discussed in detail in chapter three). Botswana's HIV/AIDS prevalence is the world's highest and estimates put the prevalence rate at a high rate of 35.4%. Consequently, government and a mosaic of non-governmental organisations (NGOs) are doing everything possible to minimise the spread of the virus. It was against this brief background that the CEO was responding.

According to the CEO, although his business was generally performing well, the firm was experiencing increased absenteeism among its youthful workforce. This was attributed to the HIV/AIDS epidemic. From his reading of the local print media and listening to broadcast media, there was a plethora of organisations working in tandem with government to fight the HIV/AIDS scourge. However, the CEO did not know which ones he knew were credible and completely resourced to assist at no or minimal expense. He had started by asking friends but had not got concrete and specific information about who to contact. Next, he decided to look at addresses of some known doctors (private general practitioners). Specifically, he used the Botswana telecommunications directory, which lists all telephone users with the corporation. Pleasingly, he found one or two names that he was vaguely familiar with. He enquired about how he could get the type of assistance. The general practitioner's response was swift: he advised him to contact an non-governmental organisation known as BONEPWA an acronym for Botswana Network for People Living with AIDS. The CEO was able to put through his request.

The second incident that the CEO described related to his search for an alternative supplier of raw materials. Although the firm had enjoyed a good/solid relationship with its suppliers, the CEO was well aware of the business maxim that "past success is no guarantee for future success". So, notwithstanding the good business relationship he had with his Zimbabwean suppliers, he was worried about the business implications occasioned by recent/on-going civil and political unrest in Zimbabwe. In his view, the land seizures spearheaded by the so-called war veterans did not auger well for the continued supply of his much needed supplies. Other business people too had voiced their concern on the implications of the political situation in Zimbabwe. Despite the relative cheapness of the raw materials, the CEO was convinced; he had to look for a new source of supplies if he wanted to guarantee the business's sustainability. He was aware that sourcing raw materials from a local supplier would be expensive and he would not enjoy the Pula versus Rand exchange rate differentials. He asked his secretary to gather information for him about suppliers. In the meantime, he asked the Botswana Agricultural Marketing Board (BAMB) to enquire about potential suppliers of these raw materials. Because the latter organisation is a parastatal organisation that buys grain and related products for Government, they were able to furnish the CEO with all the information and addresses of milling companies in South Africa.

6.4.5 Demco

Demco was registered as a company in 1991 and began its full operation in 1993. Since then it has been an active component of the manufacturing landscape for the past twelve years and first prize winner of the international trade fair in 1994. At the helm of the firm is Elsie, the 44 year-old O'Level educated founder-owner CEO. Elsie has, over the years, acquired vast experience through in-service courses. The firm that is strategically situated some 40 kilometres north of Gaborone manufactures and sells a wide range of leather products including ladies hand bags, belts, unisex sandals, wallets, shoe holders, conference and seminar bags and men's lace boots. The products are made from crocodile, buffalo, goat and ostrich leathers and also from zebra and springbok skins. Most of the products produced in the plant are sold locally to a myriad of customers including game shops, the general public and tourists. A small proportion finds its way into the regional markets. Although the market has been satisfactory over the years, recent times have witnessed big competitor threats by way of citizen importers.

The firm is strategically located as it is adjacent to a hotel and museum both of which attract potential customers. Aside, it is only a few kilometres from the populous and cosmopolitan city of Gaborone. Currently, the firm has 26 citizen employees involved in manufacturing operations and has a turnover of approximately P500, 000 (£62, 500).

According to the CEO, running a business of this kind is an extremely difficult thing because one needs to "continuously know about the availability of suppliers (raw materials), markets, customers and what competitors next door are doing". Therefore, in so far as her firm's information needs are concerned, she rates information about "suppliers, customers, markets and competition as important because many citizens (Batswana) travel to Thailand to buy leather products made from cheap labour". "These people then sell on credit and at below market prices, something which I am unable to do. Nonetheless, they give my business very stiff competition".

The first incident that the CEO described concerned her recent information seeking to bolster her suppliers' base, which was being severely undermined by the outbreak of the Foot and Mouth Disease (FMD) in the northeast district (some few kilometres north of Francistown). The business operations relied greatly on a regular supply of raw materials, especially cow hides and goatskins and these principally came from a network of suppliers who in turn sourced them from the Botswana Meat Commission (BMC). The outbreak of the Foot and Mouth Disease (FMD) resulted in the sudden closure of the BMC because of the abrupt and mandatory cessation of cattle slaughter, as a precautionary health measure. Faced with this situation the CEO needed to swiftly secure additional new suppliers if the business was not to close down with unthinkable consequences. She decided to launch an aggressive supplier-information exercise and sought the services of her employees in general and her assistant CEO in particular. The latter was mandated to ensure that the vital information was sought from all the registered customers in the most customer-friendly manner possible. She herself telephoned some of her known suppliers in the countryside asking them to increase their suppliers and help her with potential butchers. She promised them that she would be starting a small promotion for suppliers soon.

Acutely aware of the tightly competitive domestic environment and BEDIA's support for home grown local manufacturers with export potential and experiencing an upsurge in operating expenditure due to VAT, Elsie was intent upon embarking on a journey to neighbouring Namibia to display and market her wares at the forth coming Windhoek fair/show. However, she did not have adequate information about a range of issues that would affect her smooth travel to Namibia as well as the potential market. She began her information seeking by calling on a network of business confidantes to test the waters about going to Namibia on a business venture. Pleasantly, three of her associates assured her that since the opening of the trans-Kalahari high way, travel to Namibia was trouble free. Further more, Windhoek was the business centre of Namibia and Elsie would be "thrilled by her experience".

Upon getting these assurances, she telephoned BEDIA to find out more about "export information" and what she stood to benefit from such an initiative. BEDIA too corroborated earlier assurances and went on to suggest to her to contact another organisation called Botswana Export Credit Insurance (BECI). BECI gives entrepreneurs the confidence to enter new unknown export markets or expand existing ones by offering among others the following services: it protects the exporter against the risk of the foreign buyer failing to pay; checks the credit worthiness of the foreign buyer on the exporter's behalf; it provides useful security to obtain export finance from the CEO's bank. In short, BECI tries to minimise risks for exporters while encouraging them to exploit external markets. Elsie was also referred to Exporters Association of Botswana (EAOB) who offer export and development programmes, seminars, encouragement and assistance to those firms/CEOs with exporting interest. After receiving information from BEDIA, Elsie was confident and more than ever resolute about her trip to Namibia.

6.4.6 Nordico Apparels

Festa is the founder and owner-manager of Nordico, a clothing firm that manufactures and sells a range of products: t-shirts, golf-shirts, caps, shorts, under garments, hipsters and gym vests as well as ladies and gents leather jackets. The firm, situated in the copper nickel town of Selebi-Phikwe in the north of Botswana, has been operating for the past ten years. The 53-year-old CEO is a university graduate with a degree in administration plus extensive industry experience, spanning over twelve years. Festa heads a firm that employs about 50 citizens and has an annual turnover of P1.1million. The firm has a diverse customer range: general public, departmental stores, wholesalers and government agencies. Competition in the sector is very stiff, as second-hand and cheap Chinese goods have recently flooded the market. Consequently, the firm is struggling to avoid possible redundancies and restructuring.

Asked to elaborate about his perceived important information, Festa had this to say, " business person needs to have some fundamental information about what to produce, where to sell and how to get products to the market place; and whether there would be sufficient profit to warrant the effort. In brief, he or she needs a range of information. So, any manager who is serious about the success of his firm has to know real up-to-date issues in business and this concerns information about competition and markets". He went on to say that in recent years, the industry that he operates in has come under a number of competitive issues: trade liberalisation by Government and the influx of second hand Chinese goods. The latter had the negative effect of depressing the already small domestic market".

In his view, the success or failure of many businesses is dependent greatly on the availability of a good market and less competition, all of which are in short supply in Botswana's context or Selebi Phikwe. He added that when he started his business, he strategically targeted the Copper Nickel Mine personnel. However, global demand for copper have adversely affected the mine, resulting in massive lay-offs and consequently, weak demand for his products.

When asked to describe a recent incident of information searching, the enterprise owner conceded that nowadays and because of the tight competitive environment, it is almost impossible to run a business without information. In fact I am "perennially seeking information everyday and every week". Turning to his first incident, he had this to say, "sometime last week, I had to look for information about tenders (supply and delivery) of any of my products: specifically, he sought to find out if there were any tenders from schools, Government departments, private organisations and local authorities. These in his view guaranteed a far more reliable and lucrative market. Because of recent fluctuations in the demand for some of his products and resulting in massive losses, Festa wanted to strengthen his market position by bolstering his customer base.

In order to avoid corrupt business practice and ensure fair competition, it is a statutory requirement that Government and parastatal bodies put their advertisement in the main local papers: *The Botswana Gazette*, *The Mid-Week Sun*, *Mmegi*, *The Botswana Guardian* and of course *The Botswana Daily News* and the freely supplied Advertiser. Festa bought all the weekly issues of the main papers and included back-runs of *Mmegi* and *The Botswana Guardian* to give him a wider coverage of the subject. He then painstakingly scanned the papers specifically for tenders pertaining to his range of products. Additionally, he broadened his search for information to include any viable business opportunities that could be exploited.

From this endeavour, Festa was not so lucky as he only found very few tenders but was nonetheless not deterred by the result. Instead he wanted to be aggressive in his search for more tenders in the papers and seeking information from any other available personal sources contacts. Although, he was not optimistic about winning any of the available tenders, he resolved to submit his tender in the near future.

The second incident that the owner of the enterprise described concerned the possibility of exploiting a trade market opportunity offered within the sub-region. The CEO had heard from some of his business associates that (BEDIA) cordially invited local manufacturers interested in establishing links with neighbouring Angola to participate in an exploratory trade mission scheduled from mid-April to that country. According to his sources of information interested companies were requested to contact BEDIA in writing. Although he was very keen to take this golden opportunity, Festa was concerned about the costs implications if he had to incur some. A slump in the sales had meant that he had cash flow problems lately.

Motivated by the desire to secure foreign potential markets, Festa started by making visits to a few friends (network of business persons) to obtain a clearer picture of the specifics about the trade mission. Out of these contacts a coherent story began to emerge and this enabled him now to consult BEDIA directly to enquire about the event. He telephoned BEDIA offices in Gaborone and this telephone enquiry yielded very positive results. BEDIA staffs that were keen to have a reasonable number of local entrepreneurs were very eager to help, as they actually needed more people than they had. Finally, Festa was furnished with a package of information about his itinerary to Angola.

As for the second incident, the CEO sought detailed information about BEDIA organised exploratory trade mission to neighbouring Angola. Such details would in the main enable him to come to a decision on whether the trip was worthwhile undertaking from a business vantage point. Therefore information was being used to enlighten (broaden knowledge) and facilitate decision-making.

6.4.7 Mangoco

Mangoco is a tile-manufacturing firm. The company is located in Lobatse, about 75 kilometres South of Gaborone, and a few kilometres from the South African border. Gala the CEO has been at the helm of the company for the past five years. In his mid forties (46), Gala is a graduate of the University of Botswana, with a Bachelor of Social Sciences degree and a recent MBA in business administration also conferred by the same university. He is also armed with a wealth of experience acquired during his 15 years of working at middle management level in the Ministry of Commerce and Industry (now Trade and Industry).

According to the CEO, the company opened its doors to business in 1994. The firm emerged through the efforts of South African and Botswana businessmen as a joint venture. The company has since grown from strength to strength and is now known as key player in both the manufacturing and construction industries. The firm faces little competition in the industry. Presently, it employs a total of 40 citizen employees. The firm's core business is the production of quality Italian style ceramic floor tiles for a range of customers: hospitals, residential houses and government and private offices. According to the CEO, the choice of Lobatse as the location of the firm was strategic, based on the proximity to rich clay deposits, the main raw material in the production of ceramic floor tiles in Southern Africa. Since there is an insatiable demand for ceramic floor tiles in South Africa and the regional markets, the factory's juxtaposition to these markets is a great advantage.

When asked to explain about the types of information he perceives to be important for his company, Gala had this to say: "All information is very important to the performance of a firm nowadays. For example, we need to utilize the best available and affordable technology to produce quality products. We also need to have continuous feedback from our customers. Above all we need to increase or market share while ensuring that we pay our employees recommended and comply of course with VAT". The CEO went on to state nonetheless that if he were to prioritise, he could rank the following types of information in order of importance: customers, competition, economic, technology and sociocultural. To justify his selection, Gala stressed that his company was intent upon increasing its market share and had actually embarked on a market campaign to realise that objective. The attainment of this strategy revolved around the availability of those kinds of information.

At the outset, the CEO stated that he described himself as a "continuous information seeker". As an avid reader of local and regional papers, the CEO reads an average of four papers in a week; two local and the other two South African. "I am always on the look out for tiny bits of valuable information" he said. The recent MBA course has underscored the centrality of information to good firm management in general. However, "I am always on the look out for new entrants into the industry/sector".

In describing his first incident, the CEO mentioned that one of his key responsibilities is to devise strategies aimed at making profit for the firm and recently, he found himself having to do exactly that. According to Gala, his company would like to strengthen its market share and a strategy had been found that would increase the market share of its products locally and regionally. The company was thus intent upon developing and implementing a "Buy-Botswana" campaign concept. For this campaign to become a reality, the CEO needed some up-to-date (macrodata) factual information on: the manufacturing sector nationally or industrial statistics, the population make up and the regional schools (primary and secondary). He also needed to have information about tenders from Government departments, schools and hospitals where they could possibly target this campaign on a pilot basis. Luckily for the CEO, he knew where the bulk of the information he needed would come; the Central Statistics Office (CSO), in the Ministry of Finance and Developing Planning would be the first port of call for information relating to the national population. So, he phoned the CSO to enquire about the recent census results. He was told that for a mere P15.00, he could obtain a full copy of the results. Alternatively, he could buy an abridged summary of the results for P5.00. He opted for the former and his justification was that for any CEO of a firm in his industry, an understanding of the size and structure of Botswana's market was an absolute necessity. According to the CEO, the size of the local market and growth in market share lies in improved quality of services.

The second incident that the CEO described concerned information in customers. Cognisant of the small domestic market in the country, the CEO believed that strengthening the firm's market share could best be ensured by increasing the company's customer-base. Therefore, he devised a long-term strategy of engendering/cultivating a "customer-centric culture" in the firm. Specifically, the CEO wanted to use a data-driven approach to better understand the firm's customers. Then armed with this information, the firm would be in a position to tailor its products to their segmented customers.

To start the data collection process, the CEO reasoned that events like the Northern Fair and the Gaborone International Trade Fair would offer ideal opportunities for him to obtain first hand information about what customers and potential customers think about the company's products. However, the CEO did not know when exactly these events were scheduled, although he knew that the Northern Fair usually took place around April/May while the bigger event, the Trade Fair, usually occurred around August/September. He started by asking the Secretary and other staff in the firm. He obtained part of the information although it was subject to verification. Then he telephoned a business friend in the same town, but did not get a satisfactory answer. Then he telephoned Fairground Holdings and BOCCIM. The latter organisation has or is going to get contacts with small and medium size organisation while the former is responsible for managing the Gaborone Trade Fair Ground (the venue of the fair). Both organisations contacted were able to provide the information freely and speedily, as it is part of their annual activities to host these events. Armed with this information, the CEO was now ready to prepare logistically for the fairs.

6.4.8 Mamboco

Mamboco wooden manufacturer is a firm strategically situated in the northern city of Francistown. At the helm of the company is the 59 year-old buoyant Hass, the founder and owner-manager. According to Hass, the firm was founded in 1980 and over the years has experienced growth. "We have grown as a company and we foresee continuous growth," he said.

Hass describes himself as barely educated, having been only as far as junior certificate (Form 3) with formal education. However, he has accumulated vast experience from a wide range of technical courses that he has attended over his career spanning over twenty years. The firm that he presides over currently has a workforce of 24 citizens and a turnover of approximately P890, 000. The firm's core business is the manufacturing/production of coffins and a variety of furniture products. "It is a business that was shunned by society at large today, but attitudes have changed dramatically". According to Hass, the business is overwhelmed by a demand for products. This is largely due to the impact of the HIV/AIDS pandemic. Most of his customers are funeral parlours and they have consistently made it known to him that their customers now want "affordable quality coffins".

Asked about types of information he considers important, Hass had this to say: "Many types of information are important to the business. For instance; one needs to know if Government has awarded its employees a pay rise. Knowing that permits me to increase my prices for products and/or increase wages for my employees. One always needs to have information about what is happening around his business". In his perception, the most important types of information are customers, competition, technology and regulatory information. He gave an example of how things have changed in the business arena and cited the introduction of VAT that in his view has the potential to stifle the manufacturing sector by charging 10% on products and raw materials alike. In short, his view was that VAT was going to increase overhead expenses.

The first incident that the CEO described concerned sourcing funds to extend his workshop and buy a few more new machines. Over the recent years his business has been experiencing a huge demand for his products and the firm was finding it difficult to satisfy its over-rising customers with tastes changing and becoming more sophisticated. So, Hass found this rise in demand a perfect opportunity to be seized upon. He wanted to borrow money to expand the business but did not want to approach any of the high streets banks, Barclays Bank, First National Bank, Standard Chartered Bank or Stanbic Bank, because of their high interest rate and reluctance to deal with SMEs with little collateral. He had heard from the radio about the National

Development Bank administering CEDA loans (low-cost citizen) but the bank demanded a detailed business plan, something he did not have the expertise to do. CEDA loans attracted a comparatively reasonable interest rate is opposed to the 16.5% charged by high street banks. He phoned two of his friends also business owners and they did not know how he could go about getting a business plan. However, one of the friends mentioned the small business clinic at the University of Botswana in Gaborone. The distance between Francistown and Gaborone (439 kilometres) was a big deterrent. Then he thought of his own accountant. He telephoned the accountant who was able to suggest a name of business consultant who could do the job at an affordable fee. The consultant was located in Francistown and Hass was able to get the kind of assistance he sought.

The second incident that the CEO described related to securing training opportunities for his tradesmen. As mentioned earlier, the business according to the CEO has been experiencing growth is the past recent years, with a steady rise of customers with sophisticated tastes. In Hass's view, this was a big business opportunity requiring a clearly worked out strategy so as to capitalise on it. He wanted to retain his existing customer-base while at the same time offering quality new products in order to satisfy new demand and expectations. His strategy was to send two or three tradesmen to acquire specialist skills in design/carpentry at affordable costs for a start. He knew one place, a local rural industries and innovation centre located some 80 kilometres south west of Gaborone. While he was mulling over the cost implications of sending tradesmen some five hundred kilometres away, another thought raced in his mind – he thought of a vocational centre some fifty kilometres from Francistown. He immediately contacted the coordinator of the centre and spoke at length over the phone. In the end, he was advised by the coordinator to contact another but more pertinent place so as to find out about the calendar of events for the whole year. In the final analysis, the CEO was able to obtain the relevant information he sought.

6.4.9 Jetco

Jetco Textiles is a company located in Tutume, some 100 kilometres north west of Francistown. At the helm of the firm is Ike, the 47-year-old managing director who has occupied that position for over 25 years. The CEO possesses a primary school certificate (Standard 7). However, she is armed with extensive in-service experiences accumulated from attending a range of specialist courses: marketing, production management, book keeping, financial management and dressmaking. As CEO, Ike performs a wide-spectrum of managerial tasks, such as supplier liaison/follow-ups, delivery to customers ensuring payment to suppliers, personnel matters/problems, resolution and stocktaking. Her assistant, who, is new sometimes deputises but is largely a designer.

The firm currently employs a workforce of 20 people of which 3 are expatriates and the turnover of the plant is about P120, 000 (£15,000). The firm core business is the manufacturing of a range of products: school uniforms, (for both boys and girls for secondary and primary schools, track suits, jerseys and protective clothing for council, government departments (Government Suppliers Department) and private companies. Most of the products produced in the firm are sold within the sub-district and the firm has no major competitors except a few new firms, which are introducing new products. Its strategic location has also given the firm major advantages and as such, the firm has been growing steadily, establishing an excellent customer-base comprising primary and secondary schools and brand recognition via quality and good supplier relationships. "I am quite aware that past success cannot guarantee future success. So, I want to be aggressive in the market in order to lure more customers" asserted the CEO. The CEO went on to say that she now had a "small niche market" that she wanted to serve and defend aggressively from any competitor threats.

Asked about the types of information she considers important to her firm, the CEO listed the following: customers, suppliers, competitors and regulatory information. "We do not use a lot of technology in this organisation and we know what the people want" she said. As for customers, she said they determined the existence of business.

Before describing her first information-seeking incident, the CEO prefaced her answer thus: "I regard myself as a regular information seeker, because all businesses need markets in order to survive. Therefore, I find important to always know where are the potential markets. Because it is it's mandatory for government departments, schools and local authorities to advertise their tenders in the local papers and *The Government Gazette*, it becomes a must to peruse these papers to find out what is happening in general and what tenders are on offer" said the CEO. So, to be kept abreast of developments in economy, she reads *The Voice*, the *Gazette*, *The Botswana Guardian* and *The Reporter*. She also needs *The Northern Advertiser* and *The Government Gazette* and maintains regular contact with customers by phoning them to enquire about when they are buying her products.

Having provided background information on her information seeking activities in general she described an incident involving information about suppliers. Her firm, like other firms in the sector has been importing raw materials from South Africa. Although she has had a good relationship with her suppliers, she was keen to undertake a new venture that would minimise her import costs. Ike had heard through a combination of rumours/hearsay from customers that there were agents/suppliers from India who were supplying large quantities of quality cloth at lower costs compared to her current spiralling import costs from South Africa. From a purely business viewpoint, Ike was enthusiastic to venture into this long-haul partnership to reap the associated foreign exchange differentials. She asked her deputy if he knew of it in Zimbabwe but was not certain if it was working in Botswana too. However, he promised to contact a fellow countryman in Botswana. Two days elapsed, and on the third day the deputy was able to call his friend who works in Francistown. He assured him that he would obtain all the contact details plus any other information as soon as possible. Indeed before the end of the week, the CEO had all the information she needed.

The second incident concerned gathering information about their customers, that is, schools in the vicinity who had bought or are buying their products. According to the CEO, such visits were all part of a "grand strategy to maintain visibility and a tight grip of the market share and ward off competitors". Because of existing citizen empowerment schemes such as CEDA with their low cost loans, new entrants into the textile business were mushrooming and this was a matter of concern to the long-term survival/success of the business. Therefore new businesses presented a challenge that had to be tackled headlong. Her strategy was to engage in an aggressive move to retain the existing customers and lure new ones. "I do not want to lose any customer," she said. So, going to her existing customers would send a clear signal to them that "here I am, I care for you". To those schools that had not yet bought her products, she would be able to offer her products to these new clients. The visits were aimed at affording an opportunity for the CEO to meet and chat with the school administrators in a relaxed atmosphere. The CEO would observe and note the use of her product. At the time of the interview the mini-project was on going. However, the CEO pointed out that she was able to obtain very useful information from talking to school managers. The secretary to the CEO provided names of schools to be visited, having obtained these from transaction data.

6.5 Analysis of critical incidents

In this section, we describe how textual data from the critical incidents related were analysed. Following Auster and Choo (1994), data from the 18 incidents were analysed according to the following criteria: description of incident, type of information involved, use to which the information was put and the information sources utilised. In other, words the technique of 'patterning and clustering' was performed and then we applied the Mintzbergian schema of four decisional roles (described in detail in chapter 2, section) to the uses to which CEOs put the information. For the sake of brevity, alphabetical letters represent the information sources utilised thus: A= Customers, B = Newspapers/periodicals, C = Broadcast media, Government officials, E = Business associates, F = Staff, G = Suppliers, H = Industry and trade associations, I = Government publications. Consistent with prior research (e.g. Culnan, 1983; El Sawy, 1985; and Butcher, 1998), the sources were divided into four categories: personal sources (ADEFGJ); impersonal sources (BCHI), external sources (ABCDEGHIJ) and internal source (F). Table 6.3 below presents a summary of the data from the critical incidents.

Table 6.3 Summary of critical incidents.

Incident	Description	Information type	Decisional role	Information Source
AS1	Bolster supply base	Customer	Entrepreneur	FG
AS2	Foreign exports potential	Competitor	Entrepreneur	DE
BI1	Searching for HIV/AIDS counsellor	Sociocultural	Disturbance handler	EJ
BI2	Source new suppliers	Customer	Entrepreneur	FG
CA1	Tenders and contracts	Customers	Entrepreneur	BJ
CA2	Foreign export market	Competitor	Entrepreneur	DE
DA1	Competitive analysis	Competitor	Monitor	JD
DA2	Customer profiles	Customer	Entrepreneur	FH
EL1	Broaden customer-base	Customer	Entrepreneur	AB
EL2	Labour relations	Regulatory	Disturbance handler	FGED
FE1	Explore market opportunities	Competitor	Entrepreneur	ECD
FE2	Source finance	Economic	Negotiator	BJL
GA1	Hunt for suppliers	Customers	Entrepreneur	BA
GA2	Woo new customers	Customers	Entrepreneur	AK
HA1	Trade association	Regulatory	Disturbance handler	ABI
HA2	Luring up-country customers	Customers	Entrepreneurship	E
IK1	Sourcing funds	Economic	Negotiator	CE
Ik2	Staff training and development	Regulatory	Entrepreneurship	J

The table above depicts a cross-case analysis of the eighteen incidents narrated by our sub sample of managers. An interesting picture of information behaviour emerges from the critical incidents depicted above. First, all the SME managers were each able to describe two separate but revealing critical incidents with relative ease and this suggests a pre-existing degree of information utilisation. The incidents described ranged from bolstering the customer-base to staff training and development, although customer and competition issues (12) tended to dominate in aggregate terms. Nonetheless, the diversity of the incidents is indicative of the spectrum of managerial work and the issues that the managers were reacting to respectively. A noteworthy feature relating to the incidents is that they occurred against the background of a very competitive business environment. All but two managers indicated that their firms were facing fierce competition.

Second, all six types of information were sought although customer information (8) and competition information (4) both emerge as the preponderant types. This finding is unsurprising and corresponds to the earlier finding observed in the quantitative data. Third, information sources utilised ranged from visits to customers, with no specific source assuming a clear-cut dominant position. A noteworthy feature of the data here is the clear usage of both personal and impersonal sources. However, taken together, the sources are skewed in favour of external sources, with only one internal type of source.

Finally, we observe a recurring pattern of the preponderance of important decisions in the Mintzbergian entrepreneurialship role (Mintzberg, 1973). That is, when analysed, these decisions fit within entrepreneur role of Mintzberg's framework as explicated earlier in chapter two.

6.6 Relative importance of accessibility and ease of use

Prior to the conduct of the face-to-face interviews, a preliminary analysis of the interviewee's responses to the mail survey showed that accessibility and ease of use influenced the frequency of utilisation more than relevance and reliability. During the interviews, interviewees were requested to shed more light on why they felt an information source's accessibility and ease of use were more important than their quality and relevance. In this section, we present the key points of the interviewees' replies.

One respondent, Hass (CEO of a Garment firm), suggested that his preference for accessibility was simply based on the notion that information is really helpful only if it is accessible.

> To me accessibility is the big issue. In this very busy world, access alone may dictate the use or lack of use of given information source. What is the point waiting for an information source of high quality that takes weeks or months to be accessible (Cass Garment Manufacturing Manager).

Another avid exponent of access, Elsie (CEO of a Leather firm) also echoed a similar concern in the following way:

> We live in a world of rapid change with many information sources around. For one to cope with these challenges, one has to make decisions at lightning speed. There is very little time for inaction and so the sources, which are handy, really matter (Elsie Leather Firm Manager).

Likewise, Gala (CEO of Ceramic Tile Firm) observed that information acquisition involves both time and effort costs:

> I have to minimise the costs involved because my time is always limited. I weigh the costs vis-a-avis the potential benefits and often times, I choose the most accessible source as I am not prepared to lose too much of my available time (Gala Ceramic Tile Manufacturer).

Several other respondents also suggested that accessibility was indeed an important issue and that they were reluctant to commit valuable time to information searches that did not guarantee access. Ashes (Manager of Block and Brick Firm) noted that an important first step in obtaining information was the ability of the information seeker to obtain physical access to the information source. He argued that on the basis of access, one could then evaluate the suitability of the source with a view to continue and discontinue its utilization. "Most of my sources are my colleagues in similar businesses and publications and both are easily accessible".

Another factor, which was found to greatly influence source utilization/selection, was ease of use. A large proportion of the interview participants 8 indicated that ease of use was a primary consideration in their source selection criteria. Festa's comments interestingly capture the sample managers' concern with incurring costs:

> I believe that information seeking can be too costly if the source is not easy to use. For example, my company recently bought and installed some computers but I do not have the necessary skills to use any electronic information sources. Getting someone to teach me is an option but it is costly in terms of both time and financial resources (Festa Leather Manufacturing Firm Manager).

Another interviewee participant Cass (T-shirt Firm Manager) explained the importance of ease of use in this way:

> Ease of use is an extremely vital criterion. People talk of user-friendliness and I think that is essentially what most users of information sources expect from an information source. No matter how good or rich information source is, if it is not user-friendly, it would be difficult to inspire interest from a wide range of users and extremely busy small firm managers. (Cass, T-shirt Firm Manager).

In summary, overall, interview participants expressed a similar view that their source selection was predicated on accessibility and ease of use. To a large majority of them, the reason for basing selection on these criteria clusters around costs, speed and convenience. One respondent asked "what is the point in waiting for weeks or months for a source that you are not certain about it coming".

6.7 Usage of libraries

Analysis of mail questionnaires had revealed that libraries figured prominently as sources least utilised by SME managers in the study sample. Also, a large proportion 7 of interview respondents had indicated that the library was not very important. Consequently, we sought, through interviews to uncover some of the reasons behind this low usage. One interview participant, Ike (CEO of a School Uniform Manufacturing Firm) explained the reason behind her low utilisation as follows:

> I have never been a keen user of libraries right from my teen days at secondary school. I doubt very much if libraries would have the type of information that I regularly need. Aside from that, the only public library available within the vicinity is located within the premises of a secondary school and this renders access a little bit difficult as one has to go through the school authorities (Ike Manager of School Uniform Manufacturing Firm).

Similarly, another respondent Cass (CEO of a Coffins Firm) expressed his usage in this way:

> While I have an overriding concern over keeping a very close eye on current issues, the library does not sound very attractive to me. My first choice of information sources is our local papers: the Botswana Guardian, the Botswana Gazette, the Mid-Week Sun and the Reporter. These sources give me a total picture of local issues and then I complement it with the broadcast media, especially the British Broadcasting Corporation (BBC). Altogether, these sources are vital to me and cost very little in terms of time and effort (Gala Manager of Tile Manufacturing Firm).

Likewise Bill (CEO of a Timber Firm) explained that:

> I have always been a library-phobic since my secondary school days. Even my 4-year degree programme with its library orientation did not change me much. So I think my attitude to libraries is ingrained in me. I could be missing a lot of information but it is not easy for me to change (Bill, Manager of Timber Manufacturing Company).

In summary, a total of 7 interview participants cited a host of explanations for their respective usage of libraries. Despite their variety, all the reasons crystallise into a pattern of under-utilisation of libraries. Essentially, a tainted picture of libraries painted as unsuitable sources of information for CEOs is tainted in the explanations. Darcy (CEO of a Confectionary aptly summarised this picture:

> In my assessment of useful sources of information, libraries do not emerge as the best sources. On the contrary, I have my tried and tested network of business people and friends. My preference for these sources is that they understand the context and complexities of my work and I find them far helpful than libraries (Darcy, Manager of Confectionery).

6.8 Usage of Electronic sources

Of the nine interview participants, only 3 indicated that they used electronic sources. The majority 6 indicated that their businesses were not connected to the

Internet; not a startling finding considering the developing country status of the research setting and the type of firms (non-exporting) studied. However, among the minority the usage of electronic sources was minimal. Gala (CEO of a Ceramic Tile Firm) explained his usage thus:

> I do a lot of Internet surfing mainly to explore export potential and see who the regional competitors are. I obtain extremely useful information on the whole but as you know, the activity takes a great deal of my time. (Gala Manager of a Ceramic Tile Firm).

In a similar fashion, another respondent Ashes echoed a positive view of his usage of electronic sources:

> The Internet is a storehouse of vast amounts of useful information to our business and related construction industry. You can find very useful new innovations and marketing strategies. Unfortunately my usage of it is very limited on account of time. I am always pressed for time and I cannot delegate my secretary to do this kind of work (Ashes, Manager of Block and Brick Manufacturing).

A third respondent Bill also gave an explanation of his usage:

> I get a lot of valuable information electronically on a wide range of subjects: construction industry in South Africa; architectural designs as well as economic data on currency fluctuations. Such information gives me an overview of the regional business environment from where we source our raw materials. However, I have only recently started using the Internet (Bill, Manager of Timber Manufacturing Firm).

To summarise, the majority of interview respondents reported having no access to the Internet or electronic databases. This state of affairs could be attributed to the general low-technology uptake that characterises most developing nations and the fact that the sampled firms are not internationally oriented. For a minority with access to the Internet, all stressed the importance of the Internet as a valuable source of information. Notwithstanding this point, they all make minimal use of the Internet and decry the lack of time.

6.9 Summary of face- to- face Interviews

The purpose of this chapter has been to discuss the results of face-to-face interviews conducted on a convenience sample of 9 SME managers in the manufacturing industry of Botswana. Both our within-case and cross-case analysis of case studies uncovered several emerging patterns that seem to characterise the information needs and information seeking behaviours of our sub-sample:

Interview participants obtain information from a variety of sources.

From the two contrasting historic events CEDA and VAT and the majority of critical incidents narrated, information was acquired from between two and four sources. Collectively, the sources included both personal and impersonal, which were largely external to the company. While the importance attached to human sources such as suppliers, business associates, customers and staff is distinctly manifest in the descriptive portraits, printed sources such as newspapers/periodicals and government publications (*The Government Gazette*) also command a great deal of importance. One manager Cass when describing his first incident indicated that he uses "a tried and tested network of friends and business people who are within easy reach". Another respondent Ashes, talked of using a combination of sources, both personal and impersonal, as a hallmark of his information seeking behaviour. He pointed out that he regarded himself as a "voracious reader of all local papers": *The Botswana Guardian*, *The Voice*, *The Mid-Week Sun*, *The Botswana Gazette* and *The Reporter*. In addition, he reads extensively a number of South African newspapers, which enjoy a fairly wide readership in Botswana.

Interview participants have a wide range of information needs

All interviews indicated that information was an extremely important resource to have for their work in the firms. One respondent indicated that because of the constant flood of goods from south Asia coming into the market, small businesses had to look beyond their borders for markets. Another of the respondents noted that he needed to be on the look out for events that may impact negatively on the business. Taken together, interviewees rated customer and competition information as crucial to their firms.

Interview participants rely heavily on personal sources for information

Of the eighteen critical incidents narrated, fourteen involved information from personal sources. In five of the fourteen cases, personal source was the single source of information utilized. Preponderant among the personal sources were: customers, business associates and government officials. Bill provides an illustrative example. When he wanted to source funds in order to extend his workshop, his first port of call was friends (also business owners). Secondly, he proceeded to consult his accountant. Elsie also offers an instructive example of our sample's tendency to rely on personal sources. In both of his incidents, Elsie evidently depicts a heavy reliance on human sources, she continually gathers information through sporadic conversations with customers and maintains regular contact with a network of friends.

Interview respondents source selection is greatly influenced by accessibility and ease of use

Of the nine respondents interviewed, 8 indicated that source selection was predicated on accessibility and ease of use. Hass expressed the importance of accessibility in this way: "to me accessibility is the big issue. "In this very busy world, access alone may dictate the use or lack of a given source. What is the point in waiting for an information source of high quality which takes weeks or months to be accessible".

In a similar vein, ease of use was rated an important determinant of source selection by 7 the interview respondents. Festa's (CEO of a Leather Firm) comment neatly captures the general view echoed by other respondents: "I believe that information seeking can be a costly undertaking if the source is not easy to use. The purchase of electronic equipment which now lies idle for lack of a trained person is a testimony to expense associated with sources that do not lend themselves to ease of use."

Interview participants make little usage of both libraries and electronic sources

Of the nine interview respondents 7 did not use libraries as a source of information. Only three indicated that they utilised the library, albeit minimally. Ike said she did not view the library as capable of containing the type of information he needed. All in all, a tainted picture of the library as an information source emerged as attributable to the low usage. For example, Bill (CEO of a Timber Firm) pointed out that he regarded himself as a self-styled library-phobic right from his university days.

In relation to electronic sources, our interview data suggest that very few interview participants used electronic sources. Only three indicated having access to electronic sources (Internet). However, they still made very little usage. A large majority of seven did not have access to the Internet. While this finding attracts several interpretations, we suggest that this is attributable to: (1) the firms being people-oriented as opposed to capital intensive, (2) the non-international orientation as non-exporting firms. For the meagre number that uses electronic sources, the information contained therein is, however, highly valued and the information types range from general economic issues to marketing strategies.

To summarise this discussion, our sample respondents have a range of information needs and gather information from a wide variety of sources. They rely both on personal and impersonal sources. When selecting information sources, accessibility and ease of use are important determinants. The utilisation of information is largely in the Mintzbergian entrepreneurial role although the issues addressed tend to be short term. Finally, both libraries and electronic sources do not feature prominently among sources used by interview respondents.

The next chapter will discuss both qualitative and quantitative data in conjunction with related empirical literature.

Chapter 7- Discussion of findings

7. 0 Introduction

In the preceding chapter, we presented an analysis of field data from personal interviews. In this penultimate chapter, we synthesise the key findings from the survey and face-to- face interviews. We discuss the findings in relation to the germane extant literature so as to establish whether or not our data are in consonance with findings from prior research. To structure our discussion, we specifically focus on the following:

1. SME Managers in this study perceive customer information, competition information and economic information to be important to their work in firms.
2. SME managers devote some time to information gathering.
3. SME Managers frequently collect the following types of information: customer and competition.
4. SME managers utilise a mosaic of information sources with the most frequent being: customers and business associates.
5. SME managers also use a variety of impersonal sources with the dominant ones being: newspapers, magazines and broadcast media.
6. Libraries do not feature prominently as information sources.
7. Source selection is predicated on accessibility and ease of use.
8. SME managers use information largely for decision-making purposes.
9. Summary of discussion
10. Chapter summary

In the following sections, 7.1 through 7.8, we discuss the findings, while section 7.9 summarises the discussion. Finally, section 7.10 concludes the chapter.

7.1 Information needs of SME Managers.

SME managers in this study perceive customer, competition and economic information to be the most important types of information needed in their managerial jobs. Taken together, respondents indicated that they perceived customer information as the most important type of information (mean score = 3.48), followed by competition information (mean score = 3.42) and economic information (mean score = 2.88). Table 5.4 in chapter 5 displays this data. Also, field interview data provide direct and even dramatic corroboration of this important finding. Of the 9 respondents interviewed, 6 explicitly described customer-oriented critical incidents; 5 mentioned incidents targeting competition information but only two described incidents relating to economic information. Table 6.1 in chapter 6 displays the pertinent data. Taken together, these incidents highlight the perceived importance of customer, competition and economic information in that order. One respondent described an incident aimed at luring up-country customers. Likewise, Gala talked about his plan to woo new customers, Darcy gave an account of his plan to develop customer profiles. In short, a customer-orientation pervades the interview data and there is merit in presenting a brief statement by Cass, which aptly typifies this orientation: "all businesses need customers to survive, no customers no business and my basic management idea is our customers are our partners"

Competition information emerged as a runner-up to customer information and several interview subjects also provided verbal accounts of how they perceived it. However, we also have pertinent anecdotal data that lends credence to the perceived importance of this type of information. Duncombe (1999) observes that: "It is now widely recognized that the domestic market is saturated and companies that wish to grow must consider export market as an outlet for their products" (Duncombe, 1999: 134). It is worth noting that government vigorously supports this quest for export market through a variety of methods, for example, BEDIA and AGOA (see the Starco case study in chapter 6).

Economic information was mentioned by only two of the interview respondents. Perhaps financial schemes such as CEDA make such information readily available. A systematic review of literature on the information needs of SME managers revealed that there were only a few studies that had exclusively dealt with the subject of information types (Kench and Maguire, 1974; Dua, 1990; Olaisen, 1991; Marcella *et al.*, 1996; Vaughn *et al.*, 1996; Vaughn, 1998), and the results are equivocal. Smeltzer *et al.* (1988) found that the three types of information rated important by managers were: marketplace, economic conditions and technology, while Marcella's *et al.* (1996) study rated product information, business opportunities and financial information as the three most highly regarded kinds of information. Also Reid and Webster (1993) found that suppliers and marketing information were the three perceived important types of important information. Four possible explanations can be advanced to account for the variation in empirical results.

First, as mentioned earlier, research on the subject is still in an embryonic state, as demonstrated by its unsystematic, non-programmatic and conflicting nature (discussed in chapter three). Second, there is a wide variation of business environments in which the firms studied operate. Empirical evidence suggests that the business environment exerts great influence on the information needs of firms (Duncan, 1972; Dill, 1958; Pfeffer and Salancik, 1978). According to Boyd and Fulk (1996) environments can be "diffuse, complex, dynamic and elusive" that is, intense and fast-paced change is the striking feature of contemporary business environments. In such environments, top executives of organisations seek more external information, whereas in stable environments, information seeking is modest. Most prior mainstream user studies have tended to overlook the business environment in their analysis of information needs. Third, the nature of the industry in which firms are located also plays an important part in generating information needs. Industry characteristics such as technology adoption, access to markets and resource availability influence to some degree the information needs of the top executives. However, the large proportions of germane traditional user studies have tended to under-appreciate the influence of industry. For example, when analysing data from multiple industries, some studies present findings as if they represent a single homogeneous industry. Lastly, a number of authors on information needs of small firms have used various categories of types of information. Consequently, this only makes comparisons among various pieces of research very difficult.

Despite the dissonance in the empirical findings, an aggregate analysis shows that the important types of information are related to marketplace, economic and technology information (Smeltzer *et al.*, 1988; Johnson and Keuhn, 1987; Vaughn *et al.*, 1996). Put differently, the type of information that SME managers need most belong both the task environment and the general environment. The latter embraces competitors, suppliers, consumers and distributors while the former includes technology regulatory and economic issues (Daft *et al.*, 1988).

In the study reported here, we found that customer, market and economic information, in that order, are the three most highly rated types of information for SME managers.

We invoke Michael Porter's (1985) Five Forces model frequently used in the management literature to assess the business environment to shed light on managers' propensity for these types of information. Accordingly, we begin with a brief background.

The Five Forces are the subject of Porter's best-selling book, *Competitive strategy*. Porter's classical work offers a new framework for industry analysis that has enjoyed considerable popularity among business executives and has received a good deal of interest from the academic community as well. For a detailed discussion, see Bourgeois *et al.* (1999) and several recent texts on strategic management. Suffice to mention, however, that the Porterian model examines five forces that determine the structure of an industry and hence the average profitability or attractiveness of those industries. The Five Forces are: (1) the threat of new entrants; (2) the threat of substitute products; (3) the power of suppliers; (4) the power of buyers; and (5) rivalry within industry. For each of the five forces, Porter (1985) identifies a set of factors that would determine the presence and power of the force in a particular industry environment.

Nearly all the five forces are present at least to some extent in most industries, but it is the intensity of the various forces that will determine whether they have a significant impact on the profitability of a particular industry. The logic behind the Five Forces Model is straightforward: *As the intensity of the forces increases, the industry environment becomes more hostile and overall industry profitability will decline* (Porter, 1979:140).

Porter's descriptive framework also identifies three generic strategies that a firm could choose from in order to counteract the influence of the external forces. These are cost leadership, differentiation of its product and/or services, and innovation to focus its business in a market niche. Further, Porter argued that organisations could deal with the competitive forces effectively by following any one of the above strategies.

Applying the Porterian model to the Botswana manufacturing industry context is particularly instructive as it enables us to see some important revelatory features that SME managers in the industry have to wrestle with. First, recall however, that the industry is important to the economy of the country and has been identified as an engine of economic diversification so as to lessen the economy's reliance on diamonds (as discussed in detail in chapter three). Second, the government of Botswana has been making vigorous efforts to woo investors, both local and foreign, through a variety of incentives and strategies (e.g., 15% corporate tax; lowest in an African country and low-cost finance schemes (e.g. CEDA), liberalisation, deregulation, competition policy, privatisation and monetary policies (inflation containment). Third, the small domestic market is saturated and many SMEs scramble for customers and are forced to look beyond their borders for markets. Consequently, the business environment is intensely competitive and SME mortality rate is very high. According to Briscoe (1995), approximately 80-85 % of the firms meet their fate after 5 years of trading. Clearly, the business world in which SME managers in this study operate is a scene of profound changes. It presents managers with extraordinary opportunities, but also pose significant challenges, as managers must navigate their firms through a turbulent industry environment. It is in this complex and challenging industry that SME managers as solitary decision-makers have to make sense of the business environment with the ultimate objective of insuring the profitability and survival of their firms.

Against this background, we can now apply Porter's forces to the manufacturing industry context. SME manager's propensity for customer, competition and economic information reflects a collective generic competitive strategy adopted by SME managers in this study. In other words, these managers are trying to cope with, and if possible change, rules in favour of their companies. With respect to customer information, the quest for such information is a clear manifestation of the need to maintain a customer focus that would eventually ensure profitability. The managers must continuously gather customer orientated information because the success of their firms hinges on the availability of customers. Likewise, SME managers' need for competition information is interpreted as a defensive strategy to maintain market share in the face of a flood of foreign new entrants and cheap substitute goods from China. Iansiti (1995) notes that in uncertain environments, an organisation can consistently outperform its competitors by prompt responses to threats and opportunities.

In respect to economic information, the introduction of low-cost finance schemes targeting citizens in particular has generated a great deal of business fervor. It has not only created new opportunities for growth, diversification and possible international expansion, but also generated a period of entrepreneurial ferment. Taken together, these information types suggest the competitive strategies that SMEs managers employ in response to the intense competition

Finally, our study's findings are only partially consistent with selected studies that found customers and market information to be the two most highly rated information types. However, our study would appear to disconfirm technology as an important type of information. A possible explanation for this finding could lie in the extent of technology adoption and utilisation levels in the manufacturing sector of Botswana as an emerging economy.

7.2 SME managers devote some time to information seeking.

Our analysis of questionnaire data revealed that SME managers in this study devote some time to information seeking. The results suggest that 85% of the respondents spent approximately between 1 and 7 hours weekly on active information seeking. Clearly, this is a significant finding, although unexpected given the resource-limitations that SME managers have been portrayed to have (Barrier, 1994; Kinni, 1995; Welsh and White, 1981). The emergent pattern from interview data provides a robust corroboration and lucid views about SME managers' devotion of time to information seeking. Gala, CEO with a tile firm, described himself as a "continuous information seeker and an avid reader of local and regional papers", and reads on average four papers in a week, seeking tiny bits of valuable information. Likewise, Bill CEO of a timber firm said that because of his firm's reliance on South Africa for raw materials, it was crucial for him to be up-to-date with what was happening there as events there could impact on the smooth operations of his business. Consequently, "I skim through the headline pages for business and economic issues so as to keep an eye on the economy". Similarly, Cass CEO of Selebi-Phikwe clothing firm described himself as "perennial information seeker, seeking information everyday and every week". Lastly, Ashes manager of brick and block firm described himself as a "heavy consumer of information" reads all the main local papers: *The Botswana Guardian, The Reporter, The Midweek Sun, The Botswana Gazette, The Botswana Daily News,* and *The Voice.* Additionally, he also reads a range of other publications including *Budget Speech,* industry publications and professional literature. Clearly, all the above descriptions point toward one main type of data need: macro information providing mostly knowledge about the general business climate within the country and the sub-region. From the sparse empirical literature on SME managers' information acquisition behaviors, only two studies specifically addressed the time devoted to seeking information (Smeltzer *et al.,* 1988; Johnson and Kuehn 1987). Many other studies (e.g. Keegan, 1974; Hambrick, 1982; Choo, 1994) address managers of large firms. According to Johnson and Kuehn (1987) owner/managers spent over one-fourth of the day in external information search activities (Johnson and Kuehn 1987:60). Smeltzer *et al.* (1988) found that most business owner/managers conducted environmental information searches regularly and used personal sources. This is a significant empirical finding especially when contrasted with findings on managers of larger firms who spent only one-sixth of their time on information searches. The study reported here is thus consistent with the studies of Johnson and Kuehn (1987) and Smeltzer *et al.* (1988). On the basis of this finding, it could be suggested that, contrary to the normative picture of SME managers portrayed in comparative literatures highlighting their limitations, SME managers from a developing country-context are regular consumers of external information just as large firm executives from developed countries. CEO managers in this study are concerned with external information and seem to require a broad continuing search of the external environment. Moreover, they show a predisposition to devote time and energy to seek information as evidenced by the 85% who spent between 1 and 7 hours a weekly on information searches.

7.3 Which types of information do SME managers seek frequently?

Our questionnaire data show that in the main, SME managers in the study reported here seek a broad range information types (see table 5.4 in chapter 5), but most frequently spend time searching for customer, market and economic information. This result is strikingly similar to that of section 7.2 above, dealing with the perceived types of information. In our view, the results not only illustrate the importance of the types of information but also concretize a significant level of interest in information issues. Data from personal interviews lends support to this finding (see table 6.1 on critical incidents). Gala, seeks tiny bits of valuable information as he reads local and regional papers. In a similar vein, Bill, CEO of a timber firm reads the newspapers extensively to keep an eye on the economy. Likewise, Ashes also reads all the newspapers, professional literature, *Budget Speeches* and a host of other sources to get up-to-date with happenings locally and regionally. Perhaps a concrete picture of which information is sought emerges from a careful examination of the critical incidents that CEO described. Of the eighteen incidents, 8 related to customer and competition information.

Empirical literature on the types of information sought by managers is ambiguous. Trott and Martin (1986) and Collins (1978) report the following as the most sought types of information: technology, marketing and company information. However, Roberts *et al.* (1987) found marketing, selling, company industry and miscellaneous data to be the kinds of information searched. Additionally, Marcella *et al.* (1996) revealed that regulatory information (health and safety) and market research were the types that rural manufacturers brought forward to information agencies. Recall, however, that, as discussed in section 7.1 above, measurement issues cloud the interpretation of most prior studies on corporate information needs. This stems partly, from the major differences in the number of categories of information employed by the vast majority of these studies. For example, studies by Culnan (1980), Choo, (1993) and Vaughn *et al.* (1996) all probed the information sources utilised by managers but all provided different types of information sources for respondents to select from. Respectively, they provided the following list of numbers: 9, 16 and 11.

Notwithstanding this ambiguity in the literature, the results of the study reported here seem to contradict Trott and Martin (1986); Roberts *et al.* (1987) and Marcella *et al.* (1996) but lends support to the results of Johnson and Kuehn (1987); Smelter *et al.* (1988) and Vaughn *et al.* (1996). A striking similarity in all these studies (Johnson and Kuehn, 1987; Smeltzer et *al.*, 1988; and Vaughn, *et al.* (1996) is that, the first two most important types of information sought are customers and market/competition. Thus, there is a striking similarity between our study and these studies. Taken together, our study and these studies do not present a single dominant type of information that managers seek.

7.4 Sources utilised by SME managers

Personal sources of information are those that communicate information personally to the manager (El Sawy, 1985; Auster and Choo, 1993). SME managers in this study utilise personal sources more frequently than impersonal sources for making decisions and learning more about the external environment. Analysis of questionnaire data suggests that personal sources taken together enjoy a preponderance of usage (see chapter 5, table 5.7 above). The two most utilized personal sources were customer (mean score = 3.38) and business associates (mean score = 2.93). Data from field interviews clearly paint a more revealing and reinforcing picture, which lends support to the above finding. Of the thirty sources utilized during the 18 critical incidents, 25 were personal sources. The most frequently mentioned were business, customer associates and government officials. We attribute the usage of personal sources to two factors.

First, SME managers' work is multifaceted and complex and yet they operate in dynamic business environments. Their firms are assaulted by globalisation and competition from new entrants invading the industry and thereby threatening their small market share. The consequent necessity is that SME managers must seek for information outside their companies to defend their market shares but they are also confronted by a variety of information sources. Second, SME managers, as mentioned earlier (see chapter one 1.2), have well-documented resource limitations, for example; they lack time to conduct thorough information searches or cannot afford to expend money on hiring someone to gather information for them. Consequently, they tend to apply "quick fixes" to information problems. Thus, utilising human resources appears to confer on them several advantages: (1) personal sources are considered rich because they transmit their information typically through rich media such as face-to-face meetings and telephone conversations that allow CEOs to observe information cues, seek clarifications immediately, probe deeply and generally to make better sense of unclear situations (Daft and Lengel, 1986); (2) by using personal sources, SME managers' access vital information without expending money, effort and skill, all of which they are reluctant to incur (Birley *et al.*, 1999; Baillete, 2001). This emergent SME executive information behaviour pattern is consistent with the "short-term perspective," "practical men" and "action-oriented" that permeates the business literature (Scott, 1987). Nonetheless, our finding that SME managers in this study use personal sources more frequently is consistent with prior research on information needs. Numerous user studies have found that workers across a variety of occupations often prefer to use sources that are close at hand (referred to informally as the arm's length rule), even though there may be better sources available elsewhere (Wilkins and Leckie, 1997).

Results of the Johnson and Kuehn (1987) study show that customers are used most frequently as a source of information by small business people; with suppliers and subordinates and distributors also used frequently as information sources. In a similar way, El Sawy (1985); Smeltzer *et al.* (1988); Wong (1987) and Specht (1987) in their respective studies investigating information needs of managers found that personal information sources were considered significantly more than other sources; family and customers (followed by friends) were by far the most frequently used sources of information. Additionally, other studies, Aguilar (1967) Keegan (1974) El Sawy (1985) and Fann and Smeltzer (1989) found personal sources to be generally more important than impersonal sources.

7.5 Utilisation of impersonal sources

Impersonal sources are defined as those that communicate information to a broad audience or through formalized group communication activities (Aguilar, 1967). They therefore include publications, industry associations, libraries and electronic information sources. Like previous sources discussed above, impersonal sources are also widely utilized by SME manager in this study. Questionnaire data reveal that newspapers and broadcast media feature quite prominently as sources of information (see chapter 5, table 5.7). A similar picture emerges from interview transcripts and critical incidents (see chapter 6, table 1). Of the 9 interviewees, 5 cited using a range of impersonal sources mainly to obtain general knowledge about happenings in the business environment and to a lesser extent for identifying customers and business opportunities: Ashes read all the local papers as well as industry-wide publications to keep abreast of external events. In a similar fashion, Gala reads at least four local and South African papers to keep himself informed about important business issues. Likewise, Ike reads local papers to find out what is happening in the business environments specifically, she reads: *The Government Gazette*, *The Northern Advertiser* and all the local papers to search for customers and contracts. Critical incidents also paint a parallel picture of modest impersonal source utilization. Of Eighteen critical incidents mentioned, there are 13 mentions of various impersonal sources of which the most prominent were newspapers followed by broadcast media (see table 6.5 in chapter 6). That newspapers are the most widely used impersonal source used by SME managers in this study does not necessarily suggest that our sample is overly literate. Natural field interviews (Fontana and Frey, 1994) evidence pinpoints that SME business owners use newspapers as a survival strategy. According to the laws of Botswana, it is a statutory requirement that all government tenders be advertised in the government advertiser and other papers so as to ensure of transparency in the award of tenders. Consequently, some SME managers feel compelled to use these sources in order search for contracts/tenders.

The finding of this section that SME managers in this study use impersonal sources largely to be up-to-date with the happenings outside the firms is consistent with other prior studies that have examined sources utilised by managers. A particularly germane and revealing study is that of Donald Hambrick. Hambrick (1979; cited in Auster and Choo, 1993) studied the information searching behavior of executives using a sample of 200 CEOs from insurance firms, colleges and hospitals. A key finding of this study was that publications ranked consistently as the dominant source of all types of information in the different industries sampled (Hambrick, 1979). In a similar vein, a study on Scottish business information needs by Reid and Webster (1993) found that trade associations and chamber of commerce were prominent information providers to business managers. (Webster and Reid, 1993:44)

7.6 Use of public libraries

SME managers in this study do not appear to use libraries as sources of information. Analysis of questionnaire data reveals that SME managers in the study survey do not make heavy usage of libraries. In fact, libraries as a source of information feature at the bottom of the usage scale, with only 35% usage. Interview data not only provide a parallel picture of the above finding but also shed further light on why this picture obtains. Of the 9 interviews respondents, 7 do not use or use the library very minimally (see chapter six, 6.7 for a detailed discussion). Overall, what emerges from the interview data is a broad concrete picture of a heavily under-utilised and image-dented information source.

The finding reported here is consistent with relevant prior research on managerial information acquisition. Many information behavior studies have examined managerial usage of libraries (e.g., Kench and Maguire, 1974; Abell and Hyde, 1992; Reid and Webster 1993; Chalmers, 1995; Marcella *et al.*, 1996 and Vaughn *et al.* 1996). Two of these studies merit discussion here as germane illustrative examples: Marcella *et al.* (1996), in a multi-method Scottish Library and Information Council-funded project investigated the business information needs of companies in the rural areas of north-east Scotland. Three key findings of this study were (1) that there was lack of awareness of the resources available in the libraries; (2) low image of libraries; and (3) that companies were not naturally inclined to consult libraries for business information. Conversely, they would rather approach business organisations (Marcella *et al.*, 1996:13-15).

In a similar way, Vaughn *et* al. (1996) also investigated the value of public library to small business in Western Ontario, Canada. Unsurprisingly, their study uncovered a very low usage of public libraries. In short, they were fourth from the bottom of eleven sources of information. Additionally, and instructively, the study revealed that some respondents in the survey used the words 'storehouse' and 'warehouse' to describe the library. Interestingly, Choo (1993) in another Canadian study also found that some respondents described the library as the "final resting place" (Choo, 1993: 217).

7.7 SME information source selection is influenced by accessibility and ease of use.

Our analysis of questionnaire data suggests that owner managers' source selection is greatly influenced by accessibility or and ease of use. As can be seen in table 5.5 above, a large proportion of respondents indicated that accessibility was the dominant factor influencing their source selection. Ease of use featured prominently as the second most influential factor (see Table 5.8 in Chapter 5). What emerges from interview data sheds more light on SME managers' perceptions. All the 9 SME managers interviewed indicated that accessibility was an important criterion on which they based their based information source selection. Festa's statement typifies the overall SME managers' sentiment regarding accessibility:

> To me, accessibility is the big issue. In this very busy world, access alone may dictate the use of or lack of use of a given source. What is the point in waiting for an information source of high quality that takes weeks or even months to be accessible. (Festa CEO of a Garment firm).

The finding that accessibility is the dominant factor influencing source selection is consistent with relevant extant empirical literature. Many studies have been conducted to investigate the factors that exert influence on source selection (e.g., Rosenberg 1967, Gertsberger and Allen 1968, Allen 1977; O'reilley, 1982; Hardy, 1982). All these studies uncovered the overwhelming importance of accessibility as a criterion for source selection. Our finding seems to attract support from comparative literature's theoretical expectations. In the face of the complex, multitudinous and ambiguous information and the unrelenting pace that typify the top management task, CEOs must be able to maximise their information acquisition at a relatively low cost in terms of time and energy effort (Hambrick, 1979; Mintzberg 1973; Simon, 1976; Hambrick (1979). Additionally, Cyert and March (1963) contend that information search begins with the most accessible sources and extends outward to less accessible. Further, Daft *et al* (1988) suggest that during the managerial decision-making process, the first sources to be used are likely to be those that are adjacent to the user. Likewise, Trevino, Lengel and Daft (1990) suggest that because managers are busy people with limited resources, they select information channels for their convenience, efficiency and accessibility (Trevino *et al.*, 1990: 84). In sum, managers' reliance on accessibility for source selection is consistent with the portrait offered by qualitative data.

7.8 SME managers use information for decision making and learning about the business environment

Our analysis of questionnaire data reveals that owner/managers in this study use information frequently when making strategic decisions (see table 9 chapter 5 above). This finding is not unexpected in so far as the theoretical literature on managerial work is concerned. First we turn to the work of prominent management guru Henry Mintzberg. The work of Mintzberg (1973) is pertinent and particularly instructive here because it provides the bedrock on which the work of managers should be understood. According to the Mintzbergian schema, managerial work consists of 'ten interpersonal, informational and decisional roles that are tightly bound together as a gestalt' (Mintzberg, 1973:71). Since it is the "manager's informational and decisional roles that tie all managerial work together", and because the manager as the "nerve center informs himself about his organisation and its environment" and then uses this information as the raw-material for decision making, we would expect information from the external environment to be used for a range of strategic decisions.

Second, we examined other equally instructive literature in the pivotal information use context in which managers operate. To better understand the information behavior of managers, we need to intimately grasp the context in which managers seek and use information. Taylor's work (1986; 1991) is arguably one of the important forerunners of the rapidly growing stream of research known as INSU or ISIC studies, whose vocal proponents include Dervin (1993, 1997, 1999), Kuhlthau (1991, 1993) Savolainen (1995); Wilson (1997); (1996) Savolainen (1995), Solomon (1997), Sonnenwald (1999) to name but a few.

Taylor (1986) explains that different groups of users need and use information in different ways because the kinds of problems and concerns that one group has are quite different from those of the other groups. Thus, there are general but distinct classes of problems labelled engineering-type problems, scientific problems, legal problems or managerial type problems. The characteristics of these problems affect the way information is needed and the way it is used. Additionally, Katzer and Fletcher (1992) suggest that managers receive more information from many sources than almost anyone else in the organisation, and that they face the dilemma of receiving too much information while not getting enough of the right information. Both Taylor (1986) and Katzer and Fletcher (1992) identify a number of common elements in the information environment of managers. Taylor summarises the information requirements of top executives as follows:

- They make a variety of decisions, each needing different configurations and quality information.
- They rely heavily on aggregated data.
- They operate on a good deal less than total information.
- They suffer from an abundance of irrelevant information.
- They seek options and alternatives rather than answers.
- Subjective judgment plays an important role in executive decision-making.
- They strongly favor verbal media.
- External information is often unpredictable in occurrence or impact is artificial.
- They use formal information systems through assistants who act as preliminary filters (Taylor, 1986: 40).

Third, we look at a large stream of research on environmental scanning which clearly captures and highlights the information acquisition task of managers (see chapter two). Environmental scanning has been defined as acquiring information about a company's external environment, the knowledge of which would assist top management in charting the company's fatal course of action (Aguilar, 1967; Auster and Choo, 1993; Boyd and Fulk, 1996). What is apparently implicit in thus definition is a close connection between environmental scanning and decision-making. As Ansoff (1965) points out, corporate strategy is a set of objectives that are fundamentally important to the long-term survival and health of the firm. Strategy defines the company's basic image, processes, fields of present and future activity and expected future position in these fields and takes into account both the risks and opportunities in the external environment and strength and weaknesses within the firm itself.

In his seminal research, Aguilar (1967) clarifies the strategic role scanning, so that environmental scanning is the acquisition of external strategic information that is useful for making decisions about company strategy and long term plans. (Aguilar 1967:6). Likewise, Lester and Waters (1989:5) define the scanning process as consisting of the gathering and analysing of information and then the use of the analysed intelligence in strategic decision-making. Clearly, environmental scanning is an information seeking activity practised by managers. Data from interviews lends support to the link between the information acquisition and decision-making (see table 6.5 above in chapter six). Of the 18 critical incidents described, 14 concerned the acquisition of information, which was utilised in a strategic fashion, for example, to devise a new marketing strategy.

Finally we zero in on the turbulent and equivocal environment that confronts managers today. Managers today confront a business environment that is complex and turbulent. In fact, management scholars have coined several new terms including high-velocity environments and hyper-competition, to describe the dynamics of these rapidly changing competitive environments (Bourgeois and Eisenhardt, 1988; D'Aveni, 1994; Brown and Eisenhardt, 1998). In reporting, a survey, 12000 managers in 25 countries by the prestigious *Harvard Business Review* (HBR), Kanter (1991:151) identifies a wide array of forces of change including 'globalising markets, instantaneous communications, travel at the speed of sound, political realignments, changing demographics, technological transformations in both products, production, corporate alliances, flattening organisations", all which are said to cause the traditional walls of business boundaries to crumble.

Similarly, Choo (1998) expresses the ubiquitous change in the following way:

> It is no longer sufficient to track competitors and customers: organizations must also monitor technological innovations, government policies, economic trends, demographic patterns, life style changes, political transitions, international trade- the list goes. Information and technology are spinning the webs that interconnect countries, markets and many field of human endeavour. The environment is full of surprises, distant events impinge in unexpected ways, organizations break traditions to dance to new moves, and messages hide multiple meanings. Cause and effect associations between parts of the environment are becoming even more entangled over time (Choo, 1998:30).

Clearly, the survey and the above statement aptly show that change is now a fundamental part of corporate life everywhere resulting in major restructuring, mergers and acquisitions, international expansion and right-sizing. Another common theme is the importance of fostering closer relationships with customers and suppliers leading to the formation of 'anxious alliance and cautious coalitions' (Kanter, 1991:162). Seen from an information perspective, changes or developments in the external environment create "signals or messages" that managers may need to heed (Dill, 1962). Some of these signals may be weak (difficult to detect) and others may be confusing (difficult to analyse) and others may be spurious (not indicative of true change). As an information seeker and user, the SME manager would have to pay particular attention to the multifarious signals created by a dynamic environment, interpret the often confusing or conflicting messages and make sense of the environmental changes in relation to the firm's goals and activities (Weick, 1979).

We therefore suggest that SME managers are not insulated but face an extremely equivocal business environment. Interview data indicates that managers in this study perceive the business environment to be dynamic. Three live excerpts highlight this phenomenon: One respondent noted "there were too many businesses for too few customers". Another of the CEOs suggested that they were "scrambling for customers". Further, Bill, CEO of Tyco, suggested that he had "learned to live with competition". Finally, documentary evidence lends considerable support to the change in the business environment. The government, through the Public Enterprises, Evaluation and Privatisation Agency (PEEPA) has recently been implementing a range of measures to prepare for privatisation. Consequently, this has attracted many foreign investors in to the country, thereby exacerbating the competition in a saturated market.

7.9 Summary of discussion.

In the study reported here, SME managers consider customer and competition information to be the most important types of information to their firms. We suggest that this is due in part to the dynamic business environment, which obtains in the country and the globalisation pressures to which the country is not insulated. We make 6 observations regarding the information behaviour of SME managers in this study.

First, SME managers devote a significant amount of time to active information seeking and on average spend approximately 5 hours seeking information. The shortest time spent on searching was 30 minutes while the longest was 19 hours per week. We attribute this devotion of time to information acquisition to the recognition of the value of information and the need for firms to adapt to pervasive environmental challenges.

Second, SME managers spend time searching for customers and competition. We suggest that this highlights the criticality of these information types to the firms in the light of the small domestic market in Botswana. Consequently, firms face a "scramble for markets and customers".

Third, SME managers utilise both personal (customers, business associates) and impersonal sources (newspapers, broadcast media and government publications). However, personal sources enjoy a dominant usage. It is suggested that personal sources are perceived by SME managers to provide information richness that is required to make sense of the intensely competitive landscape in which their firms operate. Further, the predisposition to use personal sources is attributed to SME managers' preference for sources that are easily accessible and entail little effort to use.

Fourth, source selection is determined largely by accessibility and ease of use. We suggest that this is because SME managers are short-term oriented and action-oriented. Consequently, they cannot afford the luxury of delaying time to consult sources from far.

Fifth, SME managers utilise information as they go about performing their routine, day-to-day activities and making strategic decisions. Managers are fundamentally important to their firms and make a multitude of critical decisions about the success, survival or profitability of their firms within the context of complex environmental changes. Further, they must also make spontaneous and complex decisions quickly, for which the price of error may be very high.

7.10 Chapter summary

In this chapter, field-based results from both data sets have been synthesized with germane extant literature. From this synthesis, a revealing picture of the information environment and behaviour of SME managers in this study emerges: (1) SME managers operate in a very competitive arena and they continuously have to wrestle with a myriad of survival issues; (2) despite their busy schedules, they devote some time to seeking information pertaining to customers and competition; (3) they use a mosaic of information sources but personal sources predominate in contrast to impersonal sources; libraries and electronic sources are scarcely used; (4) in their information acquisition, SME managers tend to exhibit short-term orientation; (5) the dominant information source selection criteria are accessibility and ease of use; and (6) information is used for making strategic decisions and for learning about the volatile external environment.

The next chapter will complete the report by highlighting the findings, implications of the research and the limitations of the study.

Chapter 8- Conclusions, Implications, Limitations and Recommendations

8.0 Introduction

The purpose of this study was to investigate the information needs and information seeking behaviours of small and medium-sized enterprises managers in Botswana's high-profile manufacturing industry. The overall objective of the study was to describe the information behaviour of this unique group of unstudied users in the socio-cultural context of a developing nation. To achieve its objective, the study raised six specific research questions: (1) which types of information do SME managers need; (2) how much information seeking is done by SME managers; (3) What types of information are sought by SME managers; (4) which information sources are utilised by managers; (5) which factors influence information source selection; and (6) in what ways do managers use the acquired information.

Chapter one presented the introduction and rationale for the study. Chapter two that followed discussed both the conceptual and empirical literature. In chapter three, the geographical, socio-economic and political characteristics of the Botswana setting (research context) were described. Data collection methods and research design were the subject of chapter four. In chapter five, an analysis of questionnaire data was made and this was followed by a related presentation of interview data, which was the subject of chapter six. The penultimate chapter 7 was devoted to a synthetic discussion of data from questionnaires, interviews and extant germane empirical research. This chapter completes the thesis by presenting the study's conclusions, limitations, implications and recommendations.

8.1 Conclusions

As stated earlier, this study set out to discover the work-related information needs and information seeking behaviours of SME managers in the Botswana's high-profile manufacturing sector. This study reported here is significant in that it represents the first systematic enquiry into executive information behaviour in an emerging economy or developing country context. Key empirical insights emerge from this study; for example, the effect of the business environment and the structure of the industry as relevant explanations for the uncovered patterns of information needs and seeking. Also, our research represents an important application of both interdisciplinary and methodological triangulation (Janesick, 1994). In this research, the use of multiple theoretical lenses and research streams enabled us to enrich our understanding of the dimensions and complexities of executive information behaviour, thereby enabling us to see the results and perspectives as complementary. Similarly, the study used several methods of data collection and sources of data in order to generate reliable conclusions. Conducting field based research for fifteen months allowed the researcher to include observational data that extended beyond the interviews.

The conclusions in this research are stated as hypotheses. The intent of this research was to describe the information needs and information seeking behaviours of SME managers and did not attempt to make generalisations that apply to all SMEs beyond the chosen industry. Further research could apply statistical tests of large random samples that will allow the generalisability of these hypotheses to other sectors:

Hypothesis 1: SME managers rate customer information, competition information and economic information as very important.

In respect to the first research question "which types of information do managers consider important for their work", our study concludes that SME managers rate, in descending order, customer information, competition information and economic information as very important to them in their work.

Hypothesis 2: SME managers spend a significant time seeking information

With respect to the second research question, "How much seeking of external information do managers do", this study concludes that SME managers undertake a significant amount of external information seeking. On average, managers spend approximately five hours a week of their busy schedules on information searching. This conclusion is important as it clearly and robustly debunks the notion that SME managers, because of their resource-limitations, cannot afford to devote time to information searches.

Hypothesis 3: SME managers seek customer information, competition information and economic information

Responding to the third research question, "What types of information do managers seek", this study concludes that SME managers seek customer information, competition information and economic information in that order of importance. In essence, the general pattern emerging suggests that they tend to seek the type of information that they consider to be important to their work-related situations.

Hypothesis 4: SME managers utilise a mosaic of sources, both personal and impersonal.

In pursuing the fourth research question, "Which information sources are utilised by managers", the conclusion of the study reported here that SME managers use a mosaic of information sources, both personal and impersonal, but that it is personal sources that SME managers use most. Among personal sources, customers, business associates and government officials are used most whereas, among impersonal sources, it is newspapers, magazines, broadcast media and trade association that are used frequently. Libraries and electronic sources do not feature prominently among the information sources to SME managers.

Hypothesis 5: Source selection among SME managers is largely influenced by accessibility and ease of use.

In response to the fifth research question, "What factors influence information source selection", our study concludes that for the bulk of the information sources utilised, source selection is greatly influenced by accessibility and ease of use. This is consistent with SME managers' "short-term orientation" or "quick-fixing approach" to work matters. Also, and more importantly, it reflects managers' desire to respond promptly to market opportunities and threats in a turbulent environment.

Hypothesis 6: SME managers use information strategic decision-making

In pursuing the final research question, "In what ways do SME managers use the acquired information about the external environment", this study concludes that SME managers use the information for a range of purposes: strategic decision-making operational decision-making and learning about the business environment. However, it is in strategic decision-making that most of the information acquired is utilised.

To complete this conclusion, this study has provided an empirical and context-grounded picture of SME managers' information behaviour from an emerging small market economy in a developing country. The patterns that emerge should be understood within the context of the broader industry environment which provides the stage in which firms operate, that is the salient elements of the business environment that provide the exogenous impact on the small firms. Essentially, they are industry-specific generic patterns of information needs and use that must be understood within the context of general industry environment in which the firms are situated. However, they are important as part of a first step in building theories for library and information research.

8.2 Limitations

In this section, we discuss several limitations that we identify in this study.

While this study makes an important empirical contribution to human information seeking behaviour research, it is not without limitations. The present study investigated the information needs and information seeking behaviours of SME managers by singularly focussing on the manufacturing industry. However, prior research suggests that information needs and seeking behaviours are affected by a host of factors. For example, industry characteristics, such as the competitive structure, availability of information, whether the industry is mature or emerging and the use of technology are all in varying degrees, separately and in combination, likely to exert some influence on the kinds of information needed, and the extent to which it is sought and the sources utilised. Since the results of this study were obtained from a sample of one sector, the study needs to be replicated in other industries if we are to better understand the information behaviours of SME managers across industries.

It is worth noting however, that the above limitation permeates all field studies in general. On the other hand, field studies such as the one reported here have the advantage of providing a richer real-world picture of the phenomenon under enquiry.

Another of the study's limitations concerns the country-specific nature of the findings. The results of this study were derived from SMEs in Botswana. While the Botswana context reinforced some already known empirical findings, great caution should be exerted in interpreting the findings of the study. This is because a considerable amount of current research suggests that information needs and seeking behaviours are processes embedded in their social, cultural and physical settings (Kuhlthau, 1991, 1993; Dervin, 1997). For example, Botswana is physically large (581,730 square kilometres) but demographically very small (1.7 million); it makes it difficult/expensive to access far-lung customers and competition for customers intense, respectively. Consequently, studies with comparative samples of firms from other countries should be conducted and subsequently used to test and extend the generalisability of findings. However, while the results of the study are not generalisable, the approach presented in this study can be generalised to other contexts.

Finally, from a methodological front, the study has two weaknesses associated with both methods utilised for data collection: the mail-delivered questionnaire and face-to-face interviews, incorporating the critical incident technique. While questionnaires are indeed very efficient in gathering data from respondents who are geographically dispersed, they nonetheless do not allow the researcher to probe in order to obtain clarity to answers given. In a similar vein, extant literature on research employing the critical incident technique within face-to-face interviews suggests that the inability of participants to recall with precision all the relevant details of critical incidents cannot be ruled out. Research from comparative fields (management science and management information systems) suggests that possible explanations for this discrepancy stem from the subject's difficult in recalling the past usage, exaggerations of the extent of usage to fit with the researcher's expectations, attention lapses and bounded-rationality (Szajana, 1996). Further, Wagner and Gooding (1987) concluded in their meta-analysis that users are poor estimators of their behaviour. Therefore, we suspect that since this study employed the two research approaches with inherent weaknesses, our research, also suffers from those shortcomings. However, we believe that the effects of these weaknesses were minimised by our triangulation approach and also the incorporation of data from natural field interviews, i.e. conversations with key informants (Fontana and Frey, 1994) and observational data and field notes (Westbrook, 1994) gathered during fifteen months of field-based work.

8.3 Implications for library and information science

This research has several implications for libraries, library and information schools and practicing librarians. In the following sections, we highlight three implications arising from the study's findings.

This study found that only a very small proportion of SME managers use libraries and even the paltry few that use them do so minimally. One of the respondents explained that he did not perceive the library as capable of providing the right information for CEOs while another described her ingrained library-phobia. Effectively, the CEOs seem to have a limited view of the public library as an important information provider to the business community. The impression that ensues from this is that SME managers are uninformed about what services libraries offer to firms and how librarians and information professional are trained to systematically acquire, retrieve and disseminate information to address corporate needs. Thus, this knowledge gap presents a great challenge to the library and information science professionals intent upon meeting corporate information needs. Arising from this challenge, the first implication is therefore to increase the awareness of the SME managers about the role of the library, the professional skills of librarians and how these skills can benefit CEOs' information gathering behaviour. Library schools may need to re-engineer themselves and proactively take the initiatives to develop seminars targeting business executives to discuss corporate information management, information resources management, information gathering strategies and the role of business librarians. An equally effective strategy would be for business and management schools working together with library schools to design and implement teaching courses that embrace and expand on these topics.

The role of information professionals in providing information to CEOs has been a subject of research in library and information science. In a study on environmental scanning in seven large UK firms prepared for the British Library, it was disappointingly concluded that "librarians and information scientists should not get involved in information analysis and judgement, but rather direct their energies to trying to improve the general accessibility and availability of publicly available information of relevance to business activity" (Lester and Waters, 1989: 61). Indeed, the contrary, it is argued, they should confine their contribution to those areas in which they are trained and qualified to practise, such as cataloguing, classification and indexing. Further, they should not involve themselves in executive decision-making because they are unable or unwilling to know and understand the detailed decision making situations in which the information will be used (Lester and Waters, 1989: 92-93).

This study's findings suggest a different set of recommendations. In this study, it was found that printed sources play a key role in providing CEOs with macro data about the business environment in the country and the sub region. SME managers interviewed in this study identified newspapers and government publications as important impersonal sources of information. Several CEOs described different information gathering routines, particularly portraying them as voracious readers of newspapers. Therefore, since SME managers prize information from printed media, there is a good match between these information sources and the special skills of acquiring, organising, analysing, synthesizing and disseminating, that librarians bountifully possess. In other words, SME managers' heavy use of printed sources implies that librarians and other information specialists can contribute in no small way to the information needs of the former. Katzer and Fletcher (1992) also identify several ways in which information professionals can support the work of managers including supplying the manager with information in the format appropriate to the problematic situation, insulating the managers from the raw and superfluous data, acting as a filter by analysing, grouping and formatting information for the manager and alerting the manager to the existence of conflicting data.

We suggest a number of attributes that business librarians, corporate librarians and other information professionals need to develop if they are to become effective and value-adding information providers to managers. In the first instance, they would have to re-engineer themselves in order to revamp their professional image into credible and trusted information providers. This study revealed that information source selection and use were greatly influenced by access and ease of use. However, SME managers interviewed seem to have a low opinion of libraries' capability to deliver relevant business information. Therefore, building a reputation as a capable and business-orientated provider of information would position librarians and information professionals as effective partners with CEOs. It may entail developing a profound understanding of business activities, competitive business environments, and strategic management and contexts in firms. A grasp of these issues would enable librarians and information professionals to speak the language of business

Second, librarians and other information professionals need to forge viable personal contacts with their executive users. Face-to-face contact is vital if they are to become credible and trusted sources. Chief executives prefer rich verbal information exchanges during which they can seek clarification, obtain feedback and receive information signals. Library and information professionals would do well to consider communicating their information through personal briefing sessions or presentations in addition to written reports. It is during these direct interactions that they can sharpen and deepen their understanding of managers' information needs and gain more detailed knowledge of the strategic business landscape.

8.4 Managerial implications

Several important managerial implications follow from the results of this study. In this subsection, we highlight those implications arising from our study that directly impact on practicing managers of as users of information and coordinators of small firms.

The present study underscores the strategic significance of external information to the managers consistent with several authors but also pinpoints a potential dilemma that CEOs may have to wrestle with as they use information sources. By virtue of their positions, and authority as coordinators of their firms, managers have access to a wide variety of sources that can provide them with vital information. However, their main concern in using sources is accessibility and ease of use. One interviewee said, "to me access is the big issue" and another stated, " what is the point in waiting for relevant source that takes months to come". An important question that immediately arises is how could SME managers take maximum advantage of the multiple sources of information without necessarily being swamped by irrelevant information. A possible effective strategy to address this dilemma is purposeful management of information resources. At the heart of this strategy is the firm belief that information is an important organisational resource, and like other resources should be managed effectively in order to achieve organisational goals and objectives. This strategy comprises three distinct tasks: identification and evaluation of information sources utilised, marching source use with information needs and developing key information sources.

Firstly, SME managers need to identify the sources that they utilise to obtain external information. Different reasons seem to explain why some sources of information are used: some are used because of convenience, some are used out of habit and others are used because of careful application of some selection criteria. Our results on sources of information utilised by SME managers in this study do not yield a rigidly uniform pattern, possibly suggesting that SME managers do not inventory the sources they rely upon. Against this background, we suggest that SME managers would benefit immensely from undertaking an across-the-board appraisal of the mosaic of information sources that they use. The end objective of this exercise would be to enable SME managers to compare source performance and source usage.

Secondly, SME managers stand to benefit from matching their utilisation of information sources to their information needs. In this study, we explored the uses to which information acquired from various sources is put. It was revealed that on the one hand, SME managers have a pervasive propensity for customer and competitor information, being the information types that they need to make fast decisions that ensure competitive advantage to the firms in a volatile environment. On the other hand, SME managers, at times, require information to be used to learn generally about what competitors are doing in the broader business environment. The two tasks represent examples of dissimilar information needs although they might require similar information sources. We therefore suggest that it would be prudent if SME managers could match information needs relating to strategic problems and decisions (competitive advantage) with information sources capable of supplying the corresponding information. Likewise, the appropriate sources for general information about the business environment could also be matched.

To sum up, we suggest that SME managers should strive to manage corporate information acquisition and information resources in a similar manner as they manage their time and other vital resources. Essentially, this could take the form of an inventory of the information sources, evaluating the performance of each source and match source utilisation with information needs. In a nutshell, this study advocates the integration of effective information management into the overall organisation management by SME managers.

8.5 Recommendations for further research

This study offers several interesting recommendations for future research. First, our research project on the information behaviour of SME managers yielded two important but unexpected results. SME managers devote time to information searching but information source selection is greatly influenced by source accessibility and ease of use. This is ascribed to the competitive landscape and the established information gathering routines of SME managers shaped by, among other things, the need to react quickly to the market and their propensity for quick results. The result suggests that in the main, source selection depends on the prevailing conditions and circumstances, as opposed to a priori rule. In other words, the situational demands and the contextual factors in a given setting are fundamental to the information seeking activity. As such, there is need for further research to explore different settings in order to unravel what drives human information seeking behaviour in different contexts.

Our second recommendation is that, being an interdisciplinary subject itself, LIS research needs to apply a variety of cross-disciplinary research orientations to the study human information behaviour. With respect to managerial information needs and information seeking behaviours, there is interplay of a host of related and unrelated factors that are accountable. To illustrate, the nature of the industry (its structure, intensity of competition, rate of innovation, technology adoption, availability of information and so on), the organisational setting (its size, age, structure, business goals and strategy) and socio-demographic variables (cognitive styles, psychological traits, functional specialization) are all-important in shaping the information needs and information seeking behaviour of the SME managers. By and large, it is recommended that when enquiring into the information behaviour of managers in organisations, research should draw on the rich traditions from comparative disciplines (interdisciplinary triangulation or the importation of theoretical insights) such as organisational behaviour (open systems theory) management, marketing, business administration social psychology and communication studies. In making this suggestion, we are not oblivious of the cognitive and time resources that this approach demands on the researcher. However, this approach has two main advantages: (1) it enriches our understanding of the phenomenon under investigation thus obviates the presentation of a fractionated view of issues that are being researched, (2) it reveals and offers a broader appreciation of the links across disciplinary perspectives and thus taking advantage of ideas produced in other areas. In so doing, it avoids "rediscovering" what is known already. The following example is used to demonstrate the perceived value of importing multiple theoretical approaches. We confine ourselves to only one theoretical orientation though: research on information behaviours of managers needs to borrow theoretical lenses from the field of organization science. Our core rationale being that as business entities, SMEs are embedded into their business environments and organisational science has long recognised the criticality of the environment to these organisations. That is, the organisational theory perspective is useful because it explicitly connects SMEs as organisational entities with the business environment. This connection, although very important, is rarely made in many information needs and information seeking studies. Studying information behaviours in organisations without utilising the environmental perspective is likely to produce a one-dimensional perspective that fails to capture the key drivers of change that are embedded in the environment. Thus the environmental is particularly effective in investigating organisational processes as it provides researchers in organisational information behaviour with a valuable theoretical lens which illuminates our understanding of the environmental triggers of information needs, i.e. which environmental sectors are perceived to be important to the firms.

Third, our review of empirical literature revealed that the vast majority of user studies were conducted at an earlier time. Although the impressive contributions of these studies are self-evident, most of the empirical work that underlies these findings was conducted in environments that were characterised largely by predictable technological and market foundations in contrast to the contemporary turbulent and global environment. Thus, we suggest that some of the findings are now dated when contrasted with the stark reality of the globalised business environment of today.

This line of reasoning is based on the realisation that many organisations in most of the developed countries grew up in a relatively isolated world where global competition for resources and markets was not a major consideration. However, in the twenty-first century, tranquil domestic markets are largely a memory of the past. The competition for resources, human talent, financial resources, raw materials and the like, takes place in a world arena often at electronic speeds. Hammer and Champy (1993) capture par excellence the forces behind the dramatic change that has affected global business environments:

> Three forces, separately and in combination are driving today's companies deeper and deeper into a territory that most of their executives and managers find frighteningly unfamiliar. We call these forces the three Cs: customers, competition and change. Their names are hardly new but the characteristics of the 3 Cs are remarkably different from what they were in the past (Hammer and Champy, 1993: 35).

In this context, managers' strategic considerations are complex. For example, evidence from strategic management suggests that globalisation requires that entrepreneurs and managers develop a global mindset to manage the complex interactions and transactions required in global markets (Hitt *et al.*, 2001; Murtha *et al.*, 1998). In short, information needs and information seeking behaviours are time-sensitive and the contemporary business environment could generate a different set of information behaviours reflecting the diverse strategies employed by CEOs as they wrestle with market place problems.

Therefore, in order to build a robust and truly universalistic library and information science theory, that is fresh and reflective of contemporary real-life business situation, future research should target these global "high-velocity" environments to uncover managerial information needs. As noted by Kuhlthau (1999), 'patterns and concepts emerging within contexts are important for building a theoretical framework for information science'. To this end, future research has the potential to yield new concepts mirroring the information behaviour dynamics of the CEOs operating in a turbulent business environment.

Fourth, responding to current criticisms of methodological shortcomings that continue to plague information behaviour studies (Wang, 1999; Sandstrom and Sandstrom, 1995), future information behaviour research should strive to apply creative, multi-method approaches to data gathering by incorporating appropriate methods from comparative disciplines (methodological triangulation, Fabritius, 1999). For example, classic studies by Aguilar (1967), Mintzberg (1973) and Auster and choo (1993) are particularly germane as they provide instructive methodological exemplars. Recently, Wang (1999) has provided a valuable and comprehensive review of methodological sources for researchers to select appropriate approaches from. Apart from the advantage of injecting much vigour and novelty in the library and information science information behaviour research arsenal, this approach also has the virtue of offsetting the inherent weaknesses of each data collection method (Tashakori and Teddlie, 1998).

In summary, our recommendations for future research are not an agenda of topics that should be pursued in the future. On the contrary, they are a methodical approach on how future research should proceed; tackling (1) *theoretical issues* (e.g. theory enhancing via multidisciplinary approaches or tapping from complementary streams of managerial information as exemplified by the work of Leonidou and Theodosiou (2004) in marketing or Gilad (1994) in business management); (2) *methodological issues* (i.e. the fusion of novel, open-ended methodologies and special instruments such as the critical incident technique that capture the intimate understanding of the SME manager and the business environment); and (3) *contexts* (i.e. focusing on unexplored settings that have been overlooked by research over the years). Research from the field of strategy suggests that the notion of a culture-free thesis rests on shaky grounds; i.e. the claim that context-structure relationship are stable across societies or the wholesale applicability of Western generated theories or results to societies with vastly different socio-economic conditions (Lincoln *et al.*, 1986).

8.6 Concluding Remarks

Prompted by a lacuna in information needs research, the study reported herein set out to probe the information needs and information seeking behaviours of SME managers in Botswana's high-profile industry. A multi-perspective approach involving the integration of insights from cognate disciplines was adopted to inform the study. Likewise, methodologically, the study employed both qualitative and quantitative methods by using postal questionnaires and interviews to gather data. The study produced the following results: (1) SME managers in this study rate customer information, competition information and economic information as very important for their work; (2) SME managers in the study reported herein spend a significant amount of their time seeking the following types of information: customer, competition and economic information in that order of importance; (3) SME managers in this study utilise a mosaic of both personal and impersonal sources of information but usage gravitates towards personal sources; (4) information source selection amongst managers in this study is largely influenced by accessibility and ease of use; (5) SME managers in this study use the acquired external information for a range of purposes: strategic decision-making, operational decision making and learning about the environment. However, most usage is directed towards strategic decision-making.

This study therefore makes several important contributions which merit highlighting. First, it extends information needs and seeking research by addressing an empirical gap on SMEs from a world context. Thus it provides useful foundational data that can be infused into the larger processes model building and of theory generation in information science. Second, it makes a key theoretic contribution that is achieved by integrating literatures from diverse fields. This synthesis while rare in the literature is not only useful in providing a rich array of concepts but also offers a 'bridge' between diverse literatures in the broader social sciences arena. That is, it allows literatures to talk to each other. This is important because as Van Maanen (1998) notes, boundaries between disciplines are fluid and blurred. Consequently, we need dialogue in order to profit from cross-fertilisation of ideas. Third, we employed a multi-method approach involving questionnaires and interviews involving the critical incident technique. Such a combination of methods provides a powerful multi-dimensional way to capture processual issues, such as information behaviour in a global and dynamic environment. We believe that tilting information needs research towards multi-method is surely no longer nice to have but essential so as to overcome the common limitations of single usage of questionnaires. As Pettigrew (1992) observes, sole reliance on the questionnaire in studying managerial behaviour in organisations is like being several places from the actors, the processes, and the issues facing those managers. Thus, in this vein, our study presents an eclectic method for further research to consider.

Finally, a synthesis of the vast body of the interdisciplinary literature (thirty seven non-library science journals used (see Appendix K) suggests that library and information could draw a lot of strength from integrative research approaches, i.e. exploring uncharted contexts (unexplored environments), exploiting multiple perspectives and employing multiple methods in the Tedlie and Tashakori (1998) and Jick (1979) tradition. Other disciplines (e.g. management and marketing) are doing exactly that. In short, library and information research on information needs should consider gradually replacing the one-dimensional view in favour of a multidimensional one. Taylor (1991:231) concludes our work with another passionate call for context studies in which multiple method and integrative approaches could be applied:

> There is a strong need for more studies of differing populations working in varying contexts, and how individuals in those populations describe, in their own words, how specific information is used and how its use (or non-use) affects their concerns (Taylor, 1991: 231).

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Appendix A. Cover Letter: Information needs and information seeking behaviours

Department of Library & Information Studies
University of Botswana
Private Bag 00 22
Gaborone
1st June 2002

Dear Sir/Madam,

Survey on information needs and information-seeking behaviour of small and medium-sized enterprises (SME) managers in Botswana.

Today's enterprises are increasingly concerned with many aspects of their external environments: shifting customer preferences, technological advances, heightened competition, government regulations and policies, economic trends are all affecting firms in complex and unpredictable ways. As a result, gaining information about issues, trends and events in these areas becomes a very important activity of top managers who have to ensure that their firms thrieve and succeed.

This study seeks to understand how managers of small and medium-sized enterprises acquire and use information about the external environment. The objective is to gain knowledge to guide the design of information services and information systems that can better satisfy the information needs and seeking behaviour of top executives.

We sincerely request your participation in this study by completing the enclosed questionnaire. It should take around fifteen minutes to answer the questions most of which require only ticking a box and circling a number. It would be of some assistance if the completed questionnaire could be returned in the envelope provided before the **14th June 2002.**

We respect, and will preserve, the confidentiality of every respondent. The names of respondents and their companies will not be used in any reports derived from this survey. Questionnaire numbers are for follow-up purposes only. This is one the few studies to focus on how top managers acquire and use information. Since we are contacting only a selected number of managers in the Manufacturing industry, your response is vital to this study. If you would like to have a copy of the summary of results, please include your business card or address in the return envelope.

We look forward to hearing from you. If you have any queries, please call Boemo Jorosi at *(00267) 3552617*.

Thank you very much for sacrificing your time.

Yours sincerely,

Boemo N. Jorosi, Research Assistant

Paul F. Burton, Supervisor

Appendix B. Questionnaire: Information needs and information seeking behaviours

Instruction

Please complete **all** questions in each section by ticking, circling the answer that matches your views or alternatively, writing in the space provided. Your responses will remain **strictly confidential** and your identity will **not** be revealed by your answers.

Section A: Personal and business details

Please tell us about yourself and your company.

1. What is your gender? Female [] Male []

2. In which of the following age groups are you?

< 25	[]	25-35	[]	36-45	[]
46-55	[]	56-65	[]	> 65	[]

3. What is your *highest* educational qualification or nearest equivalent?

____

4. How long has your firm been trading? Years _____ Months _____

5. Are you owner/manager [] or manager [] of this business?

6. How long have you been the manager of this firm? Years _____

7. How many years have you worked with the firm? _____

8. Within the manufacturing sector what best describes your type of business? e.g. footwear, bakery products, textiles, etc. _________

9. How many employees do you currently employ in the business? ________

10. What are your annual sales (approximately)? P_____________

Section B: Information needs.

11. **Information needs of SME managers**

NOTE: Please read the **Schedule: Appendix C** before answering this question.

Below are listed six (6) types of business information, which a firm may require. Using the scale below, please **circle** the number that most closely matches your view: 1 = *Not important,* 2 = *somewhat important,* 3 = I*mportant,* 4 = *Very important.*

Type of information	**Degree of importance**			
	Not Important	Somewhat Important	Impor-tant	Very Important
Competition information	1	2	3	4
Customer information	1	2	3	4
Technological information	1	2	3	4
Regulatory information	1	2	3	4
Economic information	1	2	3	4
Sociocultural information	1	2	3	4

Section C: Information seeking/searching behaviours

12. In a typical week, how much of your time do you spend actively seeking/collecting business information? Hours ______ Minutes ______

13. For each of the six (6) types of information listed below, please **circle** the number that most closely matches your extent of seeking.

Type of information	**Extent of Seeking**			
	Never	Rarely	Moderately	Frequently
Competition information	1	2	3	4
Customer information	1	2	3	4
Technological information	1	2	3	4
Regulatory information	1	2	3	4
Economic information	1	2	3	4
Sociocultural information	1	2	3	4

14. Below are listed some Ten (10) sources of information that managers may use. Using the scale below, please **circle** the number that most closely matches your usage: 1 = *Never*, 2 = *Sometimes* (*Once or twice a year*), 3 = Frequently (*Three to four times a month*), 4 = *Very Frequently* (*Once or twice a week*).

Information Source	Frequency of use			
	Never	Some-times	Frequ-ently	Very Frequently
1. Customers	1	2	3	4
2. Competitors	1	2	3	4
3. Business/professional associates	1	2	3	4
4. Government officials	1	2	3	4
5. Libraries	1	2	3	4
6.Newspapers/periodicals/magazines	1	2	3	4
7. Broadcast media (radio/TV)	1	2	3	4
8. Government publications	1	2	3	4
9. Industry, trade associations	1	2	3	4
10. Electronic information services	1	2	3	4

Please list below other sources of information that you use and rate them:

11. ______________________ 1 2 34

12. ______________________ 1 2 34

15. Which of the following reason(s) largely explain(s) your selection of the sources that you frequently use in **Question 14?** (Check all that apply)

1. Accessibility (*easy to obtain*) []
2. Reliability (*dependable/trustworthy*) []
3. Ease of use (*easy to use*) []
4. Relevance (*useful to your firm*) []
5. Other reasons (p*lease specify*)

____

Section D: Uses of information

16.what do you use the business information that you acquire for?

1. To learn about the business environment []
2. To make important decisions []
3. For day-to-day business operations []
4. Other (please explain) ________________________________

17. Would you be willing to be interviewed for this study? Yes [] No []

Thank you very much for sacrificing your time, I appreciate your co-operation and I would be very grateful if you could mail the completed questionnaire to me before **June 14th 2002.**

Boemo N. Jorosi **3552617 (W), 3933520 (H) or 71822453. Email:** jorosibn@mopipi.ub.bw

Appendix C. Schedule of Definitions: types of external information

By external information, we mean information about issues, events and trends about the business environment or business information. This information can be divided into six (6) types as explained below. For ease of filling the questionnaire, please use the definitions below to guide you answer questions 9 and 16 and other questions as necessary.

(1) ***Competition information*** - this is information about the competition sector of the business environment. It includes the firms and products that compete with your company's products and companies that make substitute products. It also refers to competitive tactics and actions between your firm and the other competing firms in this industry.

(2) ***Customer information***- this is information about the customer sector. It refers to those companies or individuals that purchase the products made by your company. Customers include companies that acquire your products for resale as well as final consumers.

(3) ***Technology Information***- It is information about the technological sector. It includes the development of new production techniques and methods, innovation in materials and products and general trends in research and science and research relevant to your company.

(4) ***Regulatory information*** – this is information about the regulatory sector. It includes local and central government legislation and regulations, city or district council policies, and political developments at all levels of government.

(5) ***Economic information***- it is information about the economic sector. It includes economic factors such as stock markets, rate of inflation foreign trade balances national budget, interest rates, labour supply, unemployment and economic growth.

(6) ***Sociocultural information***- this information relates to the sociocultural sector. It includes social attitudes and values in the general population, the work ethic and demographic trends.

Appendix D. Interview schedule: information needs and seeking behaviours

Introduction

Thank you for being willing to take part in a follow-up interview to the previous survey. Can I first of all assure you absolute confidentiality and that your name will remain completely anonymous and no records of the interview will be kept with your name on them.

Overview of the Study

Company Profile

Manager's name -------------------------Current position ------------Previous Position---
Title --- Level of Education-------------------
Firm's name --- Type of business----------------------
Address--- Telephone Number--------------------

Number of employees----------------------------
Turnover (Sales) P -------------------------------

Date of interview--------------------------------------
Interview start time------------------------------------
Interview end time-------------------------------------
Interview recorded------------------------------------

Section One: Introduction

I wish to start by reminding you that the purpose of this study is to understand better your information needs and information seeking behaviours. Such information relates to: competitors, customers, economic conditions, technological developments, and social conditions. The interview should last between thirty and forty-five minutes and whatever you say will be kept confidential. If you do not mind, I shall use a tape recorder.

---

1. How did you know about value added tax (VAT) and the Citizen Entrepreneurial Development Agency (CEDA). Please elaborate.

2. Over the past six months, how has your business been doing? Please talk about: markets, competition, customers, suppliers, technology, profitability, etc.

Section Two: description of critical incidents

Please try to recall two specific recent instances, within the past six months or so, where you personally obtained or received external information, that is information which concerns events and issues outside the firm which was important to you in your job or important to the company resulting in some significant new initiative, decision or change in direction. The information may have come from any source either inside or outside the company, and may concern any subject: production problems, tenders and contracts, customers, marketing, economics, financial matters, technical developments, competition, government regulations, and so on.

Please describe the first incident in sufficient detail so that I can visualize the situation.

- Please describe the substance of the information you received. What problem or interest did it meet?
- What was your source of information?

Please describe to me the second incident of seeking information about the external environment. [Probe as above].

Section Three: Interpretation of survey data

In your questionnaire answer, you rate these types of information [ ]. Please explain why they are important?

Your answers in the questionnaire indicate that when you use an information source, its accessibility and ease of use that are important more than relevance or reliability Can you offer an explanation of why you feel this way?

In the questionnaire, you indicated a relatively high usage of [ ] Can you give an explanation why this may be so?

Section Four: End of the interview

I am interested in learning more about your firm. Are there any brochures, websites or reports about your company that I may have.

I wish to thank you very much for sacrificing your valuable time.

Boemo Jorosi

Appendix E. Letter seeking research permit

Department of Information Science
University of Strathclyde
Livingston Tower
26 Richmond Street
Glasgow, G1 1XH
United Kingdom
28th March 2002

The Administrative Secretary
Office of President
Private Bag 001
Gaborone
Botswana

Dear Sir/Madam

Re: Application for Research Permission

I am a research student (Ph.D.) in the Department of Computer and Information Sciences at the University of Strathclyde (UK) and request to be granted permission to undertake field research on the topic: **"The information needs and information seeking behaviour of small and medium-sized enterprises (SME) managers in Botswana"**. SMEs are a vital economic development tool in Botswana hence the exponential growth of these firms in recent years. However, to date, no research has been done to investigate the information needs and the sources of information used by this category of users. Consequently, very little is known or understood about their information needs.

It is hoped that the results of this study will greatly assist policy makers and decision-takers in formulating appropriate and informed policies for relevant information infrastructure. Additionally, SME managers themselves stand to benefit by knowing, among other things, which sources are capable of supplying them with relevant information.

According to my time schedule, the entire duration of the survey will be five (5) months, commencing from early **May 2002**, and finishing at the end of September **2002**. Field activities will entail despatching questionnaires and conducting interviews in Francistown, Gaborone, Lobatse and Selebi-Phikwe.

I should be very grateful to hear from you in the very near future.

Yours Sincerely,

Boemo N. Jorosi

Telephone 3552617

Paul F Burton ***(Supervisor)***

Appendix F. Grant of Research Permit

TELEGRAMS: PULA
TELEPHONE: 350800
TELEX: 2655 BD

OFFICE OF THE PRESIDENT
PRIVATE BAG 001
GABORONE

PULA

REPUBLIC OF BOTSWANA

OP 46/1 XCVI (81)

29th May, 2002

Mr. Boemo N. Jorosi
University of Botswana
P/Bag 0022
Gaborone

Dear Sir,

<u>RE: GRANT OF A RESEARCH PERMIT: MR. BOEMO N. JOROSI</u>

Your application for a permit refers.

We are pleased to inform you that you have been granted permission to conduct a study entitled "The Information Needs and Seeking Behaviours of SME Managers:An Empirical Study of the Manufacturing Industry in Botswana". The research will be carried out in Gaborone, Francistown, Selebi-Phikwe and Lobatse.

The permit is valid for a period not exceeding eight (8) months effective May 29, 2002.

The permit is granted subject to the following conditions:

1. Copies of any report/papers written as a result of the study are directly deposited with the Office of the President, National Assembly, Ministry of Finance & Development Planning, Ministry of Trade, Industry, Wildlife & Tourism, National Archives, National Library Service, National Institute for Research, National Conservation Strategy Agency and University of Botswana Library.

2. You conduct the study according to the particulars furnished in the application.

3. The permit does not give authority to enter any premises, private establishment or protected area. Permission for such entry should be negotiated with those concerned.

4. Failure to comply with any of the above-stipulated conditions will result in the immediate cancellation of the permit.

Yours faithfully

J. Mosweu
for/PERMANENT SECRETARY TO THE PRESIDENT

cc: Permanent Secretary
- Ministry of Finance & Development Planning
- Ministry of Trade, Industry, Wildlife & Tourism

Clerk of the National Assembly
Executive Secretary, National Conservation Strategy Agency
Director, National Archives
Director, National Library Service
Director, National Institute for Research
Librarian, University of Botswana Library
District Commissioner/Town Clerk
- Gaborone
- Francistown
- Selebi-Phikwe
- Lobatse

Appendix G: Follow-up Letter

Dept. of Library & Information Studies
University of Botswana
Private Bag 0022
Gaborone
14th June 2002

Dear Sir/Madam

Some two weeks ago, we sent you a questionnaire inviting you to describe how you acquire and use information from the business environment. Your name was specifically selected from a register of small and medium-sized enterprises.

If you have already completed and returned the questionnaire, please do accept our sincere apologies and thanks. However, if not, please do today. Because the questionnaire has been sent to only a small but representative sample of managers, your reply is extremely vital if we are to accurately understand the information acquisition and use of the managers. This will in turn enable the design information services that can better satisfy the information requirements of the top executives.

We look forward to hearing from you. If by some chance, you did not receive the questionnaire, or it got misplaced, please call **Mr Boemo Jorosi at 3552617** and we will mail you one today.

Yours Sincerely,

Boemo Jorosi- Research Assistant

Appendix H: Second follow-up letter

Dept. of Library and & Information Studies
University of Botswana
Private Bag 0022
Gaborone
16th July 2002

Dear Sir/Madam

Re: **Study of information needs and seeking behaviour SME managers.**

Some four weeks ago, we wrote to you inviting you to take part in a survey of information needs and information seeking behaviours of SME managers. As of now, we have not yet received your completed questionnaire.

The research project has been undertaken because we believe that the acquisition and use of information by managers has to be best understood in order to provide the knowledge to guide the design of information services which can more fully satisfy the information requirements of top executives.

We are writing to you again because of the significance each questionnaire has to the usefulness of this study. Your name was drawn from the directory of manufacturing companies and it is essential that each person in the sample return the questionnaire.

In the event that your questionnaire has been misplaced, a replacement is enclosed. If you have any questions, please call **Mr Boemo Jorosi** at **3552616.**

Your cooperation is greatly appreciated.

Yours Sincerely,

Boemo N. Jorosi - Research Assistant

Appendix I. Third Follow-up Letter

Dept. of Library & Information Studies
University of Botswana
Private Bag 0022
Gaborone
6th August 2002

Dear Sir/Madam

Re: Study of information needs and information seeking behaviours: third reminder

We are writing to you about our study of how SME managers acquire and use information about issues, events and trends relevant to their firms. We have not yet received your completed questionnaire. So far the number of questionnaires received is encouraging. But whether we will be able to describe accurately how chief executives in the manufacturing industry depend on you and the others who have not yet sent in the questionnaire. This is because our past experience suggests that those of you who have not yet sent in the questionnaire may have quite different perceptions and preferences from those who have. To our knowledge, this is the first national study of this kind that has been done. Therefore the results will be of particular importance to many organisations and agencies that are involved in the creation and distribution of information about the external environment, and who are aiming to produce information that better services the needs of top executives like yourselves. The usefulness of our results ultimately depends on how accurately we are able to describe how managers search for information. It is for this reason that we are sending you a registered envelope mail to ensure delivery. In case our earlier correspondence did not reach you, a replacement questionnaire and reply envelope are also enclosed.

We appeal to you to complete and return the questionnaire as quickly as possible. Your contribution to the success of this project will be greatly appreciated.

Yours sincerely,

Boemo N. Jorosi

Appendix J: Lead authors (scholarly pillars) and their contributions

This appendix presents a spectrum of lead authors whose work has greatly influenced the conception, direction and execution of this project.

Author (s)	Key Contribution
1. Wilson	Context, cognitive perspective, qualitative methods, multidisciplinarity
2. Dervin	Context and meaning, 'Alternative' paradigm, methodological issues
3. Taylor	IUEs, contexts, information needs classes
4. Katzer and Fletcher	IUEs for managers, context, managerial tasks
5. Kuhlthau	Constructionist perspective, uncertainty, context and meaning
6. Ellis	Information seeking as a stage process, context, qualitative methods
8. Belkin	Problematic situations
9. Marcella and Baxter	Citizenship information and multi-method research
10. Mintzberg	Nature of managerial work, environment and information, strategy formulation and structured observation
11. Auster and Choo	Environmental scanning, managerial information sources, study design
12. Aguilar and Keegan	Environmental scanning, CIT, information sources
13. Eisenhardt and Bourgeois	Environmental strategy perspective, high-velocity environments
14. Dill and Duncan	Environmental perspective, organisations and information processing
15. Hannan and Freeman	Ecology school, organisations as species in environments
16. Pfeffer and Salancik	Dynamic environments, information processing
17. Porter	Industry structure and competitive forces
18. Daft *et al.*	Definitions of information, instrument design and measurement issues
19. Lofland and Yin	Case study design and qualitative data analysis
20. Jick and Janesick	Triangulation
21. Flanagan and Keegan	Critical incident technique
22. De Vaus and Dillman	Questionnaire construction, pilot study and pre-testing
23. Kent	Sampling, quantitative data analysis
24. Leonidou	Perspectives on export information (marketing)

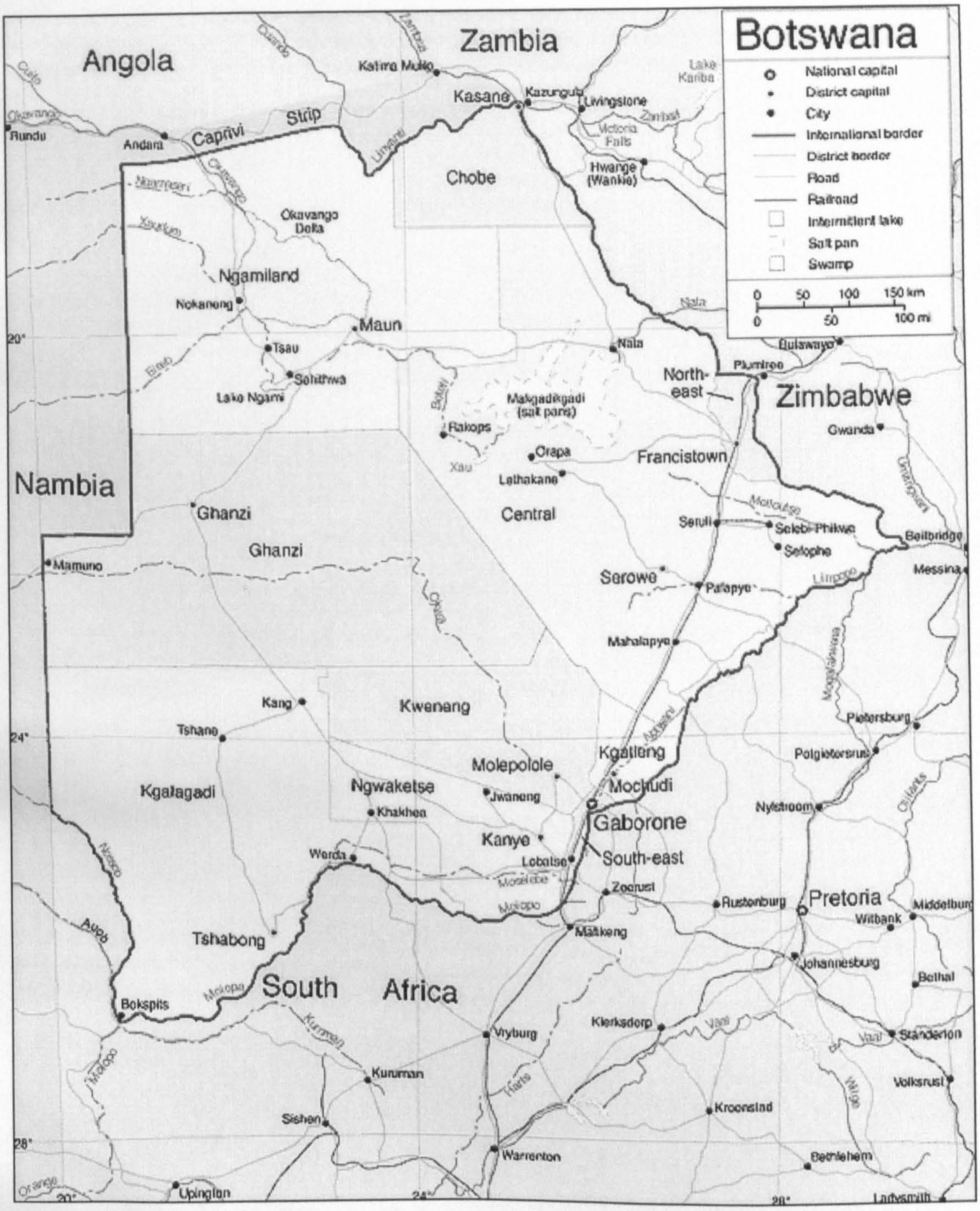
Appendix K: List of *interdisciplinary* Journals used in this study

To corroborate the claim to interdisciplinarity, this appendix presents a list of journals from cognate disciplines that were used in this study. The list purposefully excludes all information science journals.

1.Academy of Management Review
2. Administrative Science Quarterly
3. American Journal of Small Business
4. American Journal of Sociology
5. British Journal of Management
6. Business Horizons
7.California Management Review
8. Data Management
9. Decision Sciences
10. Development Southern Africa
11. Employment Gazette
12. European Management Journal
13. Graduate Management Research
14. Harvard Business Review
15. Human Relations
16. IEEE Transactions on Engineering Management
17. International Small Business Journal
18. Journal of Business Venturing
19. Journal of Contemporary African Studies
20. Journal of European Industrial Training
21. Journal of Management
22. Journal of Management Studies
23. Journal of Marketing Research
24. Journal of Operations Management
25. Journal of Small Business and Entrepreneurship Management
26 Journal of Small Business Management
27. Journal of World Business

28. Long Range Planning
29. Management Information Systems Quarterly
30. Management Science
31. Management Review
32. Managerial Planning
33. Marketing Science
34. Nations Business
35. OMEGA
36. Organisational Behaviour and Human Performance
37. Psychological Bulletin
38. Sloan Management Review
39. Small Business Management Entrepreneurship: theory and Practice

Appendix L: Map of Botswana



Taken from http://www.gov.bw/tourism/geographical/img/geographical2a.gif