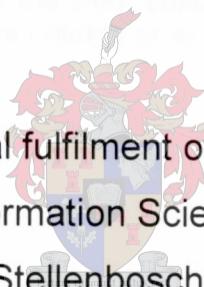


*Information organisation in small, medium and micro
enterprises (SMMEs) in South Africa*

by

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degree of Master of Information Science at the University of
Stellenbosch

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Abstract

The study was conducted to determine the need of SMMEs with regard to the availability and organisation of information. Literature on the subjects of information that is available in SMMEs and how this information should be organised was studied to determine whether it provides SMMEs with enough knowledge to find external information and extract internal information. The literature regarding information management and organisation was also studied to determine whether it can be used by a owner/manager of an SMME to organise its information in such a way that it can be retrieved and used. The study also included an empirical part with the purpose of discovering the current practices regarding the collection, organisation and use of information in SMMEs.

Twenty-four structured interviews were conducted in four towns, namely Kuilsriver, Stellenbosch, Upington and Makhado (Louis Trichardt). During the interviews a questionnaire was used to investigate the uses of computers, the availability and need for information from the external and internal environment, and lastly electronic and manual systems used to organise information. When the interviews were concluded the systems were, especially the electronic folder systems, further investigated through observation. This provided an excellent opportunity to discover the usefulness of a system and even what type of information is really available and needed.

It was found that SMME owner/managers are mostly aware of internal information, but do not know how to extract it or what other application possibilities it has. External information is not widely available or used. The only external information available is that which the SMMEs are required to have by law.

Information organisation, although critically important to all SMMEs, was mostly not done effectively. Electronic folder structures and manual filing systems are mostly used for information organisation, but they are not effectively used because of lack of skill and no other literature or association to turn to. To assist SMMEs in the development of a folder structure system a number of guidelines are provided that will help to design a natural or structured language system tailored to the specific needs of the business.

Ekserp

Die studie is gedoen om vas te stel wat klein, medium en mikro ondernemings se behoeftes rakende die beskikbaarheid en die organisering van inligting, is. Literatuur wat hierdie twee onderwerpsareas dek, is bestudeer om vas te stel of dit genoeg kennis aan die ondernemings oordra om eksterne inligting op te spoor, en interne inligting te onttrek. Literatuur wat handel oor inligtingsbestuur en inligtingsorganisering is bestudeer om uit te vind of dit deur 'n eienaar/bestuurder van 'n klein onderneming gebruik sou kon word om inligting te organiseer, sodat dit weer opgespoor kan word. 'n Empiriese studie het ook deel uitgemaak van die algehele studie en het daarop gefokus om vas te stel wat die huidige praktyke rakende versameling, organisering en gebruik van inligting in klein ondernemings is.

Vier en twintig gestruktureerde onderhoude is in vier dorpe, naamlik Kuilsrivier, Stellenbosch, Upington en Makhado (Louis Trichardt), gevoer. Gedurende die onderhoude is 'n vaelys gebruik om ondersoek in te stel na die gebruik van rekenaars, die beskikbaarheid en gebruik van interne en eksterne inligting en, laastens, die elektroniese en handstelsels wat gebruik word in klein ondernemings. Na afloop van die onderhoude is stelsels verder ondersoek deur middel van observasie vanveral elektroniese lêergidsstelsels. Die observasie het 'n guldige geleentheid gebied om die bruikbaarheid van die stelsel en selfs die inligtingsbehoefte van die onderneming te toets.

Daar is bevind dat die eienaars/bestuurders van klein ondernemings wel bewus is van die interne inligting, maar nie die kennis het om dit te herwin of om inligting in ander prosesse toe te pas nie. Eksterne inligting word nie algemeen gebruik nie. Die enigste wat meestal voorkom is eksterne inligting wat volgens wet in die besit van die onderneming moet wees.

Inligtingsorganisering is wel as van kritieke belang aangedui deur alle klein besighede, maar in die meeste word dit glad nie effektief toegepas nie. Elektroniese lêergidsstelsels en liasseerkabinette word algemeen gebruik, maar 'n tekort aan vaardighede en literatuur om leiding te gee veroorsaak dat hulle nie effektief gebruik kan word nie. Om klein besighede behulpsaam te wees met die ontwikkeling van leerstelsels is 'n aantal riglyne verskaf. Hierdie riglyne sal die klein besighede van hulp kan wees in die ontwikkeling van 'n natuurlike- of gestruktuurde taal stelsel wat by die behoeftes van die besigheid aangepas kan word.

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Chapter 1

Introduction

1.1 Background

The new knowledge-based economy – with its focus on information, knowledge and the delivery of services – has brought changes to the environment in which businesses operate. Because the new economy makes use of volatile resources such as information and knowledge, it is ever changing. This means that an organisation should be responsive and thus able to adapt to any sudden changes in the economy without too much change to its structure. Organisations should also be seedbeds for fast and effective innovation in order to stay ahead in the global marketplace (Innovation in technology..., 1998; Skyrme, 1999:37; Vickery, 1999:9).

The development of this new economy created an opportunity for small, medium and micro enterprises (SMMEs). The outsourcing of certain activities is now mostly given to smaller businesses specialising in specific fields, such as legal services (Skyrme, 1999:11-12). The new economy depends on the ability of businesses to adapt to developments quickly and easily, and most authors believe that SMMEs have this ability in abundance because they are not organised according to traditional hierarchies (Vickery, 1999:9). The new economy is also characterised by globalisation, giving SMMEs the opportunity to participate in a global market where the size of the business is not important. The importance is in the service the business is willing to deliver.

The acquisition, usage and discarding of information is not enough for survival in the new economy and corporate world. Acquiring information can be time consuming and expensive. Repeating the process to find the same information could have a negative effect on the success of the business. Therefore the management of information, including information organisation is crucial to any business. Information organisation not only allows for the systematic storage of information, but also the retrieval, sharing and use of information (Choo, 1998:33). This increases the usability of information that can lead to greater success in business.

In an SMME with few personnel, resources and little time, the process of information organisation is essential. Proper information organisation will save time and money that can be reinvested in the SMME to increase profit and success.

Information and literature on information organisation practices in SMMEs is limited. An assessment of real practices in SMMEs is necessary to discover the depth of expertise SMMEs have regarding the availability of information and the organisation thereof.

1.2 Problem statement

The new knowledge-based economy has created many opportunities for all business sectors, including the SMME sector, to be more competitive and successful through the implementation of information management —and especially — information organisation.

Even with the growing importance of, and demand for, information management, SMMEs still do not know what information is available or required. In some SMMEs, information is not used correctly, whilst in others, it is unusable (Davenport, 1997:7).

Taylor (1999:2) states, “If it is not organised, it is difficult, if not impossible to find.” Informal discussions with some of the owners/managers in the study identified the retrieval of information as the main problem experienced, proving the statement made by Taylor. In some of the businesses low-level information organisation was implemented, for example ring binders organised alphabetically. This made retrieval of information somewhat easier. The known and accepted principles that guide information organisation are, however, still not visible in the business world, especially in the SMME sector.

The types of problems experienced with information organisation differ from company to company and especially between large companies and SMMEs. Large companies have more money and personnel, which they can use to ensure that their information is managed and organised to its full capability. SMMEs, on the other hand, do not have the resources, funds, personnel or time to manage and organise their information. The professionals who possess the knowledge of the principles and skills to implement them are not easily accessible for an SMME with little funds and time.

A variety of literature that provides guidelines for the management of SMMEs does exist, but few of these resources cover the subject of information organisation or even information management tailored to the smaller business. Most of the literature sources are written from the academic point of view, stating the ideal situation and the advantages that will be achieved from managing the information. The situation as experienced by SMMEs has, as yet, not received much attention.

1.3 Research objectives of the study

The research objectives of this study are firstly to determine whether there are any trends, theories or perceptions that exist in literature on information organisation that can be used in SMMEs.

The second objective of the study is to investigate the real situation with regard to information organisation in SMMEs.

The third and last objective is to determine how the principles of information organisation, identified under the first objective, can be applied in SMMEs to better their process of information organisation, so that the problems regarding information retrieval can be solved.

The overall purpose of this study is not to conduct a comprehensive quantitative survey of information organisation practices in South African SMMEs, but to learn qualitatively about information organisation practices from a selected group of SMMEs.

1.4 Research questions

To ensure that the objectives of the study are reached a set of research questions was identified. These research questions were used to guide the literature study, as well as the design of the interview questionnaire used in the qualitative analysis.

The questions that were identified are:

1. What is an SMME and how important is its role in the economy?
2. What information is available in and to SMMEs?
3. Are the different types of information known to the SMMEs?

4. Should the information in SMMEs be managed and organised?
5. What are SMMEs currently doing with regard to information collection and organisation?
6. What is the current level of information organisation in SMMEs?
7. Do SMMEs currently have the skills, knowledge and personnel to successfully make use of information and so increase their competitive advantage?

1.5 Delimitations of the study

1. *Focus on the SMME sector.* SMMEs have the need to develop information organisation strategies, but do not have the expertise, funds, systems and time necessary for proper development of such strategies. Further delimitations in terms of subcategories of SMME sector is discussed in par. 2.2.
2. *The study is restricted to a few SMMEs in each of four towns.* It is an exploratory study with regard to information organisation practices in SMMEs, and not a comprehensive study; therefore, the number of SMMEs to be studied is small.
3. A variety of industry sectors is included in the study. In each sector, three or less SMMEs are studied.
4. The study focuses on document management, and not on data existing within systems, such as transaction data.
5. The presence of financial systems is investigated, but the ways in which the data are organised within the system are not investigated. This field falls within the knowledge and expertise of an accountant.

1.6 Research methodology

The first research method is a literature study in the form of a critical review. This method was used to determine the types of sources and the existing trends, theories and perceptions concerning information organisation in SMMEs (Mouton, 2001:179-180).

The implementation of theories, trends and perceptions was tested using field research and qualitative data analysis. The field research of the study was conducted in four towns – Kuilsriver, Louis Trichardt, Stellenbosch and Upington – across South Africa.

The research instruments used to conduct this field research are structured personal interviews and observation (Babbie, ©1998:279). The owner/manager of each SMME in the sample was interviewed using a structured questionnaire. The questionnaire was designed using concepts, theories and perceptions on information availability, information format and information organisation that was identified in the literature review.

Observations of electronic information systems, especially information organisation systems, were conducted after the interview was concluded. The observation created an opportunity to study the information organisation systems of each SMME in detail.

The combination of research methods helped to determine the validity of theories, trends and perceptions found in literature sources as well as helped to discover those that were not identified during the literature review. A detailed description of the selected sample as well as the research methods are given in chapter 5.

1.7 Overview of chapters

Chapter 1

Research design

Chapter one provides the background and rationale for the study. A short description of the research methodology is also provided.

Chapter 2

SMMEs and their economic role

This chapter compares the different definitions of SMMEs in order to identify the essence of what an SMME is. The economic role played by SMMEs in South Africa is also investigated, in particular the new knowledge-based economy.

Chapter 3

Information available to the SMME

In chapter three the concept of information, as it is used in the study, is defined. The different forms of information delivered in SMMEs through the internal and external environments are investigated to determine not only what information is available in- and outside

SMMEs, but also how this information can be used to enhance the success of the business.

Chapter 4

The organisation of information

In this chapter information management and information organisation are defined. The process of information management is discussed, as well as its use in SMMEs. The ways information organisation can be executed in SMMEs and the systems that can be used are discussed in the last part of this chapter.

Chapter 5

Research design and methodology

The development, design and use of the research methods are discussed in chapter five. Problems experienced during the conducting of the interviews are also mentioned.

Chapter 6

Data analysis

The data gathered during the interviews and the observation of the information organisation systems were analysed using MS Excel. The results are discussed and conclusions regarding the available literature and the real world of SMMEs are drawn.

Chapter 7

Folder systems in SMMEs

In this chapter the different electronic folder structures found in SMMEs are analysed using facet analysis. The facet analysis is used to develop a folder structure for organising information, for possible implementation in an SMME. The analysis of the structures found in the SMMEs, together with the application of Taylor's (1999:3-5) activities of information control, was used to develop a 12-step plan for information organisation. This 12-step plan can be used to develop and implement a subject-based information organisation system tailored to the needs of a specific SMME.

Chapter 8

Conclusions and recommendations

This chapter contains general conclusions and recommendations about the study.

Chapter 2

SMMEs and their economic role

2.1 Introduction

Over the last few decades a large amount of literature was published on the subject of small, medium and micro enterprises (SMMEs). In this chapter a closer look is taken at what exactly being an SMME entails, and what the relationship between SMMEs and the economy is.

2.2 Defining SMMEs

Defining small, medium and micro enterprises (SMMEs) is not an easy task, since every institution and country has its own criteria that must be met by a business to qualify as an SMME. In a study done by Stimul-IT to determine how information and communication technologies (ICT) are being implemented in small and medium businesses (SMBs) in Netherlands Antillas, it was found that all the local institutions had different criteria for SMBs. Financial institutions such as banks used the amount of credit requested by a company, the Chamber of Commerce used the total value of assets, and the Department of Economic Affairs used the number of employees (The ICT edge..., 2001).

Although isolating an exact definition of SMME remains difficult, some of the definitions given in literature contain common characteristics. The United States' Small Business Administration (SBA) defines small businesses in terms of the number of personnel and annual turnover. According to the SBA a business is a small business when it has less than five hundred employees, or an annual turnover of \$5 million or less (US Small Business Administration, 2001).

The European Commission adopted a communication in 1996 with the objective to provide a single definition for the three categories of enterprises in SMMEs, namely: small, medium and micro enterprises. This definition uses maximum number of employees, maximum annual turnover and the maximum annual balance-sheet total as criteria. The European Commission defines a micro enterprise as a business that has a maximum of nine employees. A small business has between 10 and 49 employees, with an annual turnover of €7 million and an annual balance-sheet total of €5 million. Medium businesses

are defined as having between 50 and 249 employees, with an annual turnover of €40 million and an annual balance sheet total of €27 million.

To qualify as an SMME, the business must meet the employee and the independence criteria, as well as either the turnover or the balance-sheet criteria. The independence criterion states that a small business is independent, is managed by its owner or part owners and has a small market share (Great Britain. Department of Trade & Industry, 2001).

These definitions show that annual turnover and the total number of employees have been the most widely used characteristics to define small, medium and micro enterprises.

In South Africa the SMME sector is defined by the qualitative and quantitative criteria provided by the Small Business Act (Act 102 of 1996) (Rogerson, 1997). The qualitative criterion states that to qualify as an SMME the business must be a "separate and distinct business entity, managed by one owner or more," [and] "carried on in any sector or sub sector of the economy" (*Business blue-book of South Africa 2001:480*). Therefore the business must not be a branch or part of a larger organisation, but a business in its own right, with elements such as customers, suppliers and products.

The quantitative criteria provided by the Small Business Act are presented in a schedule and provide information regarding the number of paid employees, the annual turnover and the total gross-asset value needed to qualify as an SMME. The schedule is divided into the different sectors and sub sectors of the economy, since employment and turnover are different for each sector. The South African SMME sector is divided into four categories of enterprises, namely: micro, very small, small and medium enterprises (*Business blue-book of South Africa 2001:483*).

A micro enterprise is a business that has a maximum of five employees, with an annual turnover of less than R0.15 million and assets of R0.1 million. Very small enterprises have fewer than ten paid employees, except in the mining, manufacturing, electricity and construction sectors, where the maximum is twenty. These enterprises have an annual turnover of less than R5 million and an asset value of R1.8 million. Small enterprises have fewer than fifty paid employees, a maximum turnover of R25 million and an asset value of R4.5 million. Medium enterprises have less than one hundred paid employees, except for the mining, manufacturing, and electricity and construction sectors with a

maximum of two hundred employees. These enterprises can have an annual turnover of R40 million per annum and an asset value of R18 million (*Business blue-book of South Africa 2001:483; SMEs : small & medium enterprises, 2001*).

The schedule of Act 102 of 1996 has been substituted with the schedule contained in the National Small Business Amendment Bill of March 2003. The number of employees has been kept the same as in the principal Act, but the annual turnover and asset value has been increased for each industry sector and type of SMME.

The criteria provided by the Small Business Act are not the only criteria that can be found in literature. Rogerson (1997) divided the South African SMME sector into three sets of enterprises, whilst Martins and Tustin (1999) added criteria to that of the Act.

Rogerson's input report on SMMEs and poverty in South Africa (1997) divided the SMME sector into the following sets. The first set is the survivalist enterprises. These enterprises are mainly undertaken by persons that cannot find regular employment and have little chance of growing into successful, bigger businesses as little capital is invested and training is minimal.

The second set of enterprises is the micro-enterprises, which usually involve the owner, his family and perhaps one to four employees. These persons usually have basic business skills and/or training, and their enterprises are more likely to grow into successful, bigger businesses. The third and last set of enterprises is the small and medium enterprises. They have anything from five to one hundred employees, and are usually owner-managed (Rogerson, 1997).

Martins and Tustin (1999:26-27) took the qualitative and quantitative criteria provided by the Small Business Act (Act 102 of 1996) and added further characteristics to the four categories of enterprises. They also included a fifth category namely survivalist enterprises.

Survivalist enterprises are enterprises that have no paid employees and generate an income below the minimum standard. The goal of these enterprises is mainly to provide subsistence means for unemployed persons and those whom they need to support. Examples of survivalist enterprises are hawking and subsistence farming (Martins & Tustin, 1999:26).

The characteristics added to the four categories by Martins and Tustin (1999:26-27) include the following:

- *Micro enterprises* lack formalities such as accounting functions and business premises. Examples of micro enterprises include Spaza shops and mini-bus taxi businesses.
- *Very small enterprises* operate in the formal market and usually have access to modern technology.
- *Small enterprises* have complex business practices and are usually managed by the owner. Growth into a medium business is possible if enough resources are accumulated and incentives for business expansion exist.
- *Medium enterprises* are still controlled by an owner, but management structures are more complex, such as the adding of additional layers of management (Martins & Tustin, 1999:27).

From the literature it is clear that although there is consensus with respect to the number of employees and the total annual turnover, a difference of opinion does exist with regards to the categories of SMMEs in South Africa. The Small Business Act only identifies four categories, namely: micro, very small, small and medium enterprises. Rogerson (1997) and Martins & Tustin (1999) identify another category namely the survivalist enterprise. Classifying survivalist enterprises with the micro enterprises identified by the Small Business Act is not ideal as survivalist enterprises and micro enterprises differ too much. A distinction should be made between these two classes of enterprises.

Another problem that can be identified with the definition of SMMEs is that of businesses that fall into more than one category. This phenomenon can be seen in businesses such as ICT enterprises, which can be categorised as small enterprises because of their number of employees, but the market in which they operate and their annual turnover places them in the category of medium enterprises (see also par. 6.2.1).

Although there will always be difficulties in defining SMMEs, it is still necessary to provide a basis that can be used by corporations and organisations which provide these enterprises with services. This basis should, however, not be too rigid since big corporations and organisations should be able to add or remove criteria to suit their own objectives.

The definitions given by the Small Business Act (Act 102 of 1996), Rogerson (1997) and Martins & Tustin (1999), provide a wide variety of characteristics that can be combined to develop comprehensive definitions for SMMEs in South Africa.

Based on the definitions discussed above, for the purpose of this study an SMME can be described as a separate business consisting of elements such as customers, products and suppliers, and existing in any of the economic sectors or sub sectors identified by the Standard Industrial Classification. The South African SMME sector can be divided into five categories, namely: survivalist, micro, very small, small and medium enterprises, each with an additional set of characteristics.

Survivalist and medium enterprises are not discussed here as they fall outside the scope of this study. Survivalist enterprises exist for subsistence; therefore information organisation is not of much importance to the owner. Medium enterprises contain complex systems; therefore, with respect to information organisation, can be classified with large enterprises.

Micro enterprises are enterprises that have between 1 and 5 paid employees, which usually consist of the owner, family members and a few other employees. The annual turnover of these enterprises is less than the VAT registration (R300 000) rate, and such enterprises often lack formalities of business such as formal premises and accounting functions (see also par. 6.2.1).

Very small enterprises have between 6 and 10 paid employees, except in the mining, electricity, manufacturing and construction sectors, where the business may have between 6 and 20 paid employees. These enterprises operate in the formal market with an annual turnover of from R0.13-5 million. Modern technology is a common feature of these businesses (see also par. 6.2.1).

Small enterprises have between 11 and 50 paid employees and are usually managed by the owner. These businesses have an annual turnover from R5-25 million and have the possibility of growing into a bigger business if the necessary resources are accumulated and incentives for expansion exist (see also par. 6.2.1).

2.3 SMMEs and their economic role

2.3.1 *The new knowledge-based economy*

2.3.1.1 Definition and characteristics

Post-industrial economy, knowledge-based economy, global economy and knowledge-networked economy are just some of the terms used to describe the new economy that started to develop in the 1970's. Although different, all these terms describe an economy that shifted its focus from traditional resources such as land and labour, to knowledge, information and the delivery of services (Skyrme, 1999: 11,29). This means an economy that no longer has production of goods as its primary goal, but the delivery of value-added services through the use of information and knowledge, thus using a resource that never depletes but actually grows in volume and value.

The knowledge-based economy can be characterised by four properties, namely: information- and knowledge-based, networks, globalisation and virtualisation.

The economy is information- and knowledge-based. Knowledge and information are used in every part of production to add value and design smart products¹. Customer needs are satisfied through the application of knowledge and the collection of information (Skyrme, 1999:12-13). This enhances the productivity and the competitiveness of business, which, in turn, has a positive effect on the economy.

Networks are a second characteristic of the knowledge-based economy. Collaboration and connections lead to enhanced flow of information and knowledge. This results in new ideas and products through faster and better innovation, which will increase the competitiveness and market share of any business (Skyrme, 1999:14-15; Vickery, 1999:9).

The third characteristic of the new economy is globalisation. Asmal and Kahn (2000:133) states that the new economy uses the world as its supplier and market. Vickery (1999:9) identifies globalisation as a main driver of the new economy, and Skyrme (1999:16-17) also names globalisation as one of his five "mega trends" characteristic of the knowledge-networked economy. As knowledge became more important, businesses started to market and sell their products in many different countries. Some of the businesses took

¹ Smart products: Products that use knowledge or information to provide better functionality or services. For example: a tyre that senses how heavy its load is, and adjusts the pressure appropriately (Skyrme, 1999: 12).

this process a step further and began to manufacture their products in other countries, and so formed multi-national organisations (Skyrme, 1999:16-17). This created a global economy and competitiveness, but also helped to boost the economies of other countries through employment.

The last characteristic of the new economy is virtualisation, which became possible with the development of the Internet and information technology (IT). These technologies solved the problems of time and distance, allowing businesses to keep in regular contact with offices all over the world (Skyrme, 1999:20-22). This improves business productivity and competitiveness.

Much has been written about the economic change experienced since the 1970's, but it is still not easy to provide a single definition of this new economy. However, the economy shows a definite shift from a production-of-goods-orientated economy, to a more volatile economy that uses information and knowledge to deliver valuable services. Information and knowledge are the most valuable commodities for a business to become successful and stay competitive.

2.3.1.2 Impact on the business environment

The knowledge-based economy — with its focus on information, knowledge and the delivery of services — has brought changes to the environment in which businesses operate. The new economy is ever changing, because it makes use of volatile resources such as information and knowledge. (Innovation in technology..., 1998; Skyrme, 1999:37; Vickery, 1999:9).

To adapt to this dynamism, a lot of enterprises started to downsize, making themselves smaller, because smaller units can adapt more easily to sudden changes. Together with downsizing, many companies started to outsource specialised functions — such as financial management — to specifically trained companies. This allowed them to concentrate on the core functions of their own enterprises (Skyrme, 1999:9-10).

This downsizing and outsourcing led to the termination of many established jobs, but also contributed to the development of new jobs. Downsizing and outsourcing led to a lot of workers losing their jobs. Consequently, the number of people in self-employment and the number of contract workers increased. These are ideal work types for persons not

willing or able to work regular hours, or for those trapped in jobs with little or no job-satisfaction (Asmal & Kahn, 2000:133). Large office spaces also became unnecessary with the development of rotation work and the mobile office. Information and communication technology made it possible to assemble a team of highly trained experts for a certain project, and with the completion of the project, these experts could move on to another (Muller, 1999:33). The changes in the work environment increased productivity, because workers could have more control over their work conditions.

Traditional organisations had very strict hierarchies. This slowed production down since every problem had to be communicated through the structure of authority before any attempt could be made to solve it. In an economy that demands fast innovation and problem solving, fast research and development, and shorter production run-time, such complex structures are not ideal. This caused many organisations to flatten traditional hierarchies, thus placing the worker in direct contact with top-level management (Vickery, 1999:9). Organisations also used workers in planning committees because they possess the know-how and experience needed to drive developments. This increased productivity not just because it "cut out the middle man" and gave workers a voice, but also because it offered the workers a chance to contribute to the organisation and so increased job-satisfaction.

SMMEs definitely have an opportunity to play an important role in the new knowledge-based economy, purely by enhancing what they have always been doing, delivering services, and starting to compete in the global market.

2.3.2 *SMMEs and the South African economy*

2.3.2.1 The contribution to the GDP

Since the 1970's, the role played by SMMEs in the economy has not diminished but greatly increased. An example of this increasing role can be seen in the contribution of the SMME sector to the gross domestic product (GDP) in South Africa. In 1997, of all the enterprises in South Africa, 96.5% were located in the SMME sector, and their contribution to the GDP was 32.7%. This increased to 42% by the year 2000 (Martins & Tustin, 1999:47; South African yearbook, ©2000), which indicates an increase of 9.3% in approximately three years, in the contribution of SMMEs to the GDP.

SMMEs are also credited with other contributions to the economies of the world. Creation of employment, redistribution of wealth and the improvement of competitiveness are just some of these contributions (Martin & Tustin, 1999; Rogerson, 1997; The new American evolution..., 1998).

2.3.2.2 SMMEs and employment creation

Employment creation is the most mentioned contribution of SMMEs to the economy. In the United States of America, from March 1992-1993, one million jobs were created by businesses with fewer than five employees (The new American evolution..., 1998). This is also true of Canada, where businesses with fewer than twenty employees have, over the last fifteen years, been vitally important in the creation of jobs. It was also found that job growth surpassed job losses more often in smaller companies than in the large companies (Innovations in technology..., 1998). In Europe stagnation occurred in the labour market between 1988 and 1995. In these years employment increased little in large companies, but in the SMME sector it grew at a rate of 2% per year (Hull, 1999).

The creation of employment by the SMME sector has also been observed in South Africa. October (1995:16) and Rogerson (1997) have suggested that the South African economy is characterised by a formal sector that cannot accommodate the amount of people entering the job market. Most of these people are provided with employment in the SMME sector, especially in the urban areas. In 1997 the total percentage of jobs created by the SMMEs was 44.8% and by 2000 it was 57% (Martins & Tustin, 1999:47; SME's : small & medium enterprises, 2001). This means that not only is the SMME sector responsible for the creation of more than half of the employment in South Africa, but also that there was a 12.2% increase in the employment created by this sector in approximately three years.

The contribution of SMMEs to employment has, however, also been questioned by some. Rogerson (1997) suggested that the quality of the work provided by the SMME sector should be investigated. The working conditions and the wages of the people are very poor and exploitation of children occurs often in some of the industries (Rogerson, 1997). The report "SME's : small & medium enterprises" (2001) suggested that the SMME sector is not really contributing as much to job creation as appears to be the case. The problem is that too much is expected of the sector. It is already contributing 57% to the creation of jobs and it is hoped that the SMME sector will create even more jobs in the future. This increasing pressure on the sector, according to the report, is resulting in a rising

unemployment level (SME's : small & medium enterprises, 2001). Some attention should be given to the improvement of conditions for SMMEs so that they can continue to provide employment and improve the quality of work. It is, however, clear that the SMME sector has a positive role to play in the economy through the creation of employment.

2.3.2.3 Other contributions to the economy by SMMEs

October (1995:17-19) identified further contributions made by the SMME sector to the economy. He divided them into socio-economic and socio-political factors. The socio-economic factors include the promotion of community development, a growing confidence in indigenous abilities, and the delivery of goods and services tailored to local needs and demands (October, 1995:17-18). The socio-political factors include the indigenisation of the local economy, and the limits placed on the concentration of the economy (October, 1995:18-19).

2.3.3 Problems experienced by SMMEs

Although the SMME sector contributes to the economy, businesses still experience high failure rates. This can be attributed to a number of factors, which can be divided into four categories, namely: finance and markets, management incompetence, infrastructure and support provision.

2.3.3.1 Lack of access to finance and markets

Scarborough and Zimmerer (©2000:25-29), Rogerson (1998:286) and the report "SME's : small & medium enterprises" (2001) all cite lack of access to finance and markets as the primary reason for the failure of SMMEs. Most business owners do not have the capital necessary to start a business, and therefore need to rely on loans. However, it has become increasingly difficult to obtain loans, as banks, venture capitalists and private investors are less willing to lend money to new businesses with little credit and no track record (Zimmerer & Scarborough, 1998:302). Similarly, once the business is operational, there is no guarantee that it will return sufficient profit to remain financially viable (Zimmerer & Scarborough, 1998:9).

2.3.3.2 Management incompetence

Most managers and business owners within the SMME sector have little or no formal education and training in the field of management. Today such skills are necessary in an

ever-changing economic environment (Rogerson, 1998:286-287). Without these skills, poor decision-making abilities and lack of leadership become prominent, which affect business negatively. However, formal management education and training are not enough to ensure a successful business — experience within the specific field is also vital (Zimmerer & Scarborough, 1998:23). For any success in business, comprehensive strategic planning is necessary and changes in the environment must be tracked. Many SMME managers and owners either do not give this vital facet any thought, or simply do not see the need for it, which usually leads to failure (Kaye, 1995:5-12; Zimmerer & Scarborough, 1998:25).

Many owners/managers of SMMEs do not recognise the important role that information can (and should) play in their business. Information locked in internal processes is lost because owners/managers do not realise the value it can have in other business processes. Management in SMMEs also do not always realise the importance of managing and organising information. It is not simply enough to find information, it must be managed and organised so that it may be retrieved and used again (Taylor, 1999:2) (see chapter 4). Processes and systems that can help with the finding, usage, management and organisation of information are generally not available in most SMMEs and some businesses cling to outdated systems. Management's incapability to recognise the importance of timely information and the necessity of managing and organising information could lead to information loss, or even the unavailability of needed information, and in the end, to the failure of the business.

A last management incompetence experienced by SMMEs is poor financial control. Owners often start businesses with insufficient knowledge of their financial requirements, or over-invest in fixed assets such as real estate. This leads to under-capitalisation, which often creates a financial deficit too great to overcome (Zimmerer & Scarborough, 1998:24).

2.3.3.3 Poor infrastructure

The availability of roads, electricity, telephones and storage facilities plays an important role in the success of an SMME. The lack of such facilities contributes to an overall inaccessibility to the business (Rogerson, 1998:287-288). The suppliers, for example, cannot deliver products due to the lack of roads, and the customers are unable to view and therefore purchase the business's products.

2.3.3.4 Lack of support

Even if a business has its finances, management and infrastructure under control, it is still possible for it to fail. Much of this has to do with the problem of support. Networks and consultants that provide support to SMMEs do exist, but these are mostly inaccessible to SMMEs located in rural areas. Business information that managers or owners of SMMEs require to be successful is often difficult if not impossible to obtain. Much of the information is beyond access, and many times owners do not realise the need for such information (Rogerson, 1998:288).

Although the problems and limitations that confront an owner of an SMME seem daunting, there are still a lot of advantages to owning one's own business. Scarborough and Zimmerer (©2000:6-10) suggest that owning an enterprise provides many opportunities, such as the ability to decide one's own destiny, by accomplishing only what is important to oneself. Any person that owns his or her own business should be aware of the possible limitations and how to deal with them. This will help in creating a successful business that can deal with change as soon as it arrives.

2.4 Conclusion

It is clear from the literature that SMMEs are not easy to define. The term SMME suggests that three different types of enterprises exist, but further investigation reveals that more types of enterprises could be identified encompassed within this term. The South African SMME sector consists of five types of enterprises, namely: survivalist, micro, very small, small, and medium enterprises. Each of these exists as businesses in their own right, even if they only provide the owner with a form of employment.

The SMME sector experiences a high failure rate, mainly because of limitations placed on these enterprises. These limitations include a variety of factors of which lack of experience and poor financial management are the most common. The SMMEs also play an important role in the economy. SMMEs are seen as vehicles that provide access to the mainstream economy, tools for employment creation, and the enhancement of local markets' competitiveness. The limitations that exist hamper the continuation of these roles credited to the SMMEs.

The South African Government has also realised that the SMME sector is a vital part of the economy, but is constrained in its development. This led to the adoption of the National Small Business Act (No 102 of 1996) by the government to promote the development of SMMEs in South Africa.

It is thus clear from the literature that, although the SMME sector is limited by certain factors in its development it still plays a great role in the improvement of the national economy, and that bodies like the government are taking action to improve the conditions for SMME development.

Chapter 3

Information available in SMMEs

3.1 Introduction

The process of information organisation is dependant on the information that is available in the SMME as well as the format it is available in. It is therefore necessary to include a study of information availability and formats in SMMEs to understand the needs of the businesses regarding information organisation. Only when SMMEs are aware of what information is available in the business can they decide what information to keep and how to organise it.

This information may be in any form and may come from any environment. Sources of information include technical papers, financial statements, sales records, clients, staff, competitors, product reviews, inventory records, plans, regulations and policies (Orminska, ©1991:34-36; Sirigindi, 1996:22-28; Starting a small business..., ©2002).

Large businesses have the necessary personnel and resources to exploit all these sources, as well as all types of information, but SMMEs usually do not have these resources. SMMEs must, however, be aware of the information available to them so that they also may reap the benefits of the new knowledge-based economy.

3.2 Management, business processes and business-critical information in SMMEs

A business is defined as an organised effort of one or many persons to produce and sell a product or service, which would satisfy a need, for profit. The business must be organised to work effectively and efficiently. If this is not done the business cannot be run successfully and will fail (Machado, Strydom & Cont, 1999:3, 4-5).

Any business has certain basic management functions. These are planning, organisation, leadership (leading) and control. Planning involves the identification of goals and how these goals should be achieved. Organisation is the structure or frame given to human

and material resources needed to achieve the goals. Leadership is the motivation and the instruction of human resources to achieve the goals in the best way possible. Control is used to check that activities are executed effectively so that planned goals may be achieved (De Beer [et al.], 1996:2; Hodgetts & Kuratko, ©1998:296; Machado, Strydom & Cont, 1999:54-55).

The basic management functions provide information regarding the goals of SMMEs, and how these goals should be achieved. These functions could, therefore, provide basic information about the type of business, its customers, and possibly even potential competitors. Basic management functions can also influence the type of business processes present in an SMME. For example, if the business's goal was the production of toys, the business process of purchasing would require more information about materials for production than about completed toys. The store that sells the toys would be more interested in information about completed toys purchased than about the materials used to make them.

These (above) four functions are present in every process within the business. Examples of such business processes: strategic management, financial management, marketing, production, purchasing and human resources management (De Beer [et al.], 1996:1). Jennings and Beaver (1997:64) states that the processes that will be present in an SMME depend on the needs of the business owner/manager and those of the business (see par. 6.4.2).

This is because the SMME is usually initially managed by one person, when it is established. Although others may support him or her, the decisions and the management of the business still lie with the owner/manager. He or she is responsible for definition of goals, purchasing and sales, record keeping, prices and inventory control (Starting a small business..., ©2002). It is only when the SMME starts to grow and more people join the business that some of the tasks may be delegated to others (Jennings & Beaver, 1997:94). The decisions made by an owner/manager can therefore have a great impact on the type of information available in the SMME.

According to Matthee (1994:13) this information must satisfy certain requirements to be of use to a business. The first requirement is relevance and this means that only the information necessary to provide a reliable picture of the business should be used. The second requirement is that information must be timely – this means that information must

be there when needed. The third requirement regards quantity and specifies that information must be kept to a minimum, and in a simple form. The fourth and last requirement is quality – this means that the information must represent reality in the closest way possible and must be consistent and comparable.

These requirements are very important when considering available information within SMMEs. SMMEs do not have the personnel or the facilities to utilise all the information available in their processes. This means that they only need the information that is most critical to their success. SMMEs must, therefore, before they start collecting and organising information, have a clear definition of the types of information available and the types required. They must also be clear as to how this information will be used, where it can be found and what the most efficient way of organising it will be.

3.3 Information environments of the business

Information used by SMMEs may be gathered from different sources. These sources can be divided into an internal and an external environment. These environments both provide the business with information and are provided with information by the business.

De Beer et al. (1996:2-9) divides the information environment of the business into three smaller environments, namely the micro-, the market- and the macro-environment. The micro-environment is the environment within the business, and includes the SMME's goals, rules, regulations, policies, budgets and plans. The market environment is the immediate environment outside the business and the interaction of this environment with the business; for example, the customers and their needs, suppliers and the competition. The macro-environment is the wider world outside the business, which mostly has an indirect impact on the business. Information available in this environment involves broader subjects such as influencing economic, political, social, technological and ecological factors.

These three environments can be further grouped into the two identified by Lowe (1999:2-3) and Kaye (1995:5): the external and the internal environments. Neither of these writers (Lowe and Kaye) gives a clear definition of the terms, but Lowe (1999:2-3) offers a model (see fig.1) that provides a better understanding of the environments.

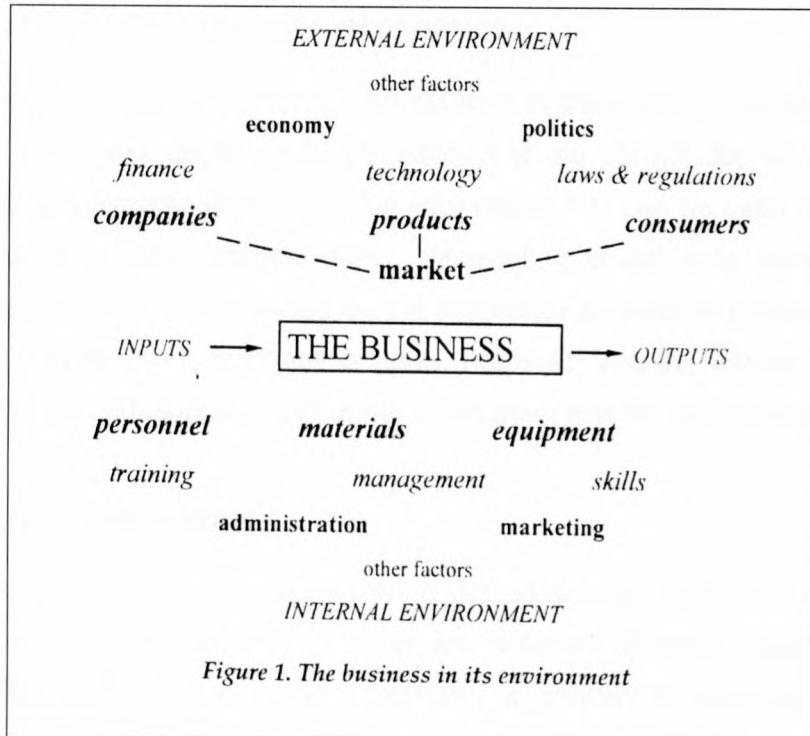


Figure 1. The business in its environment

Figure 3.1: Information environments (Lowe, 1999:2)

The external environment is that environment which does have an (limited) influence on the SMME, but over which the owner/manager of the SMME has no control, such as economic factors, competition, political factors, legislation and consumers (clients). The internal environment involves those influencing factors over which the owner/manager of the SMME has full or partial control, such as personnel, materials and equipment, marketing and administration.

David Kaye (1995:5) states that businesses are complex information-processing systems, where every action, decision and opinion is influenced by information. All these environments are, therefore, information rich and provide the different processes and personnel within the SMME with the information they need to function properly. It should also be remembered that a business process will not just receive information from one environment – to function properly it needs information from all the environments. This means that human resources will not only make use of information available inside the business — for example, the salary paid to a staff member — but also information received from outside the business, such as feedback from customers on the performance of a staff member when deciding on a salary increase or promotion. The use of all the information on the subject provides the best solution.

3.4 Information and business processes

When information is used, it is drawn from different processes and personnel within the SMME, so that the best solution may be reached or the correct decision made. Every business process generates its own unique information that can be used by the business itself or delivered to other stakeholders. Information is not only generated through business processes, it is also required by the processes to function properly. Every time information is provided to a business process, however, and the information is used, it becomes part of that process and part of the information that the process can deliver.

3.4.1 Strategic management

Strategic management is a process involving the continuous formulation of a strategic plan and ensures that the business's goals are reached (Zimmerer and Scarborough, 1998:33). Through this process an opportunity is created to evaluate the strengths, weaknesses, opportunities and threats of the business. Strategic management ensures that SMMEs maintain their competitive advantage in the market.

A strategic plan must be carefully developed and, because of the changing nature of business and the availability of new, more timely information, it must be regularly adapted to be of value in the business. Zimmerer and Scarborough (1998:35-36) identifies a ten step process of strategic management:

Step 1: Development of a vision and formulation of a mission statement

The mission statement is formulated to make the vision of the owner/manager more tangible and achievable. To develop a mission statement, information about potential customers and their needs, the market segments, the stakeholders, and the products and services of the business is required (Zimmerer and Scarborough, 1998:36-39).

Step 2: Definition of the core competencies and the target market

The core competencies are the capabilities SMMEs possess that make them better than their competitors; capabilities such as responsiveness and innovation. In the definition of core competencies and the target market, information about customers' behaviour, needs and wants is necessary, as well as information about products and services of the SMME and its competitors (Zimmerer and Scarborough, 1998:39-41).

Step 3: Assessing the SMMEs strengths and weaknesses

The strengths and weaknesses in a business involve internal factors, such as the mission, goals and objectives of SMMEs. Strengths are defined as advantages and weaknesses as limitations of the business (Zimmerer and Scarborough, 1998:41). Information about the internal environment, such as financial information, production figures and costs, marketing information, sales figures and product development, is necessary to determine the strengths and weaknesses of SMMEs.

Step 4: Identifying opportunities and threats

Opportunities and threats are external factors and are outside the control of the SMME. Opportunities have a positive impact and threats have a negative impact on the SMME (Zimmerer and Scarborough, 1998:41-42). Information found in the external environment, such as information about competitors, customers, the economy, politics and legislation, is necessary to identify possible opportunities and threats.

Step 5: Identifying the key factors necessary for success in SMMEs

Key success factors are relationships between controllable variables and critical factors that influence an SMMEs competitive advantage. This determines the success of the SMME in the market (Zimmerer and Scarborough, 1998:44). To determine the critical success factors, information about the SMME's goals and objectives necessary, as well as information on how to identify these factors.

Step 6: Analysing the competition

It is important to identify the competitors of an SMME. Competitor analysis should include information about competitors' core competencies, customers, products or services (Zimmerer and Scarborough, 1998:44-46). Analysis of the competition provides information that can be used to further develop goals, objectives and possible opportunities, which could increase the competitiveness and success of SMMEs.

Step 7: Creating goals and objectives for the SMME

The goals and objectives provide the target market of the business, and may be used for evaluating the performance of SMMEs (Zimmerer and Scarborough, 1998:47-48). The identified strengths and weaknesses, opportunities and threats, missions and visions of SMMEs are used to define these goals and objectives.

Step 8: Formulation of strategic options and selection of strategies

All information gathered during the previous (seven) steps provides the owners/managers with possible strategies that can be adopted in an SMME. The most advantageous of strategies should be adopted and a plan for reaching the defined goals should be put into place (Zimmerer and Scarborough, 1998:49).

Step 9: From strategic plans to action plans

The strategy adopted in the above step (eight) is converted to operational plans (action plans), which guide the day-to-day operation of SMMEs. Formulation of action plans should include a purpose and scope, contribution to other projects, resource requirements and a time schedule (Zimmerer and Scarborough, 1998:54).

Step 10: Adoption of accurate controls

Measures should be put into place to ensure that projects stay on schedule. The adopted measures can also be used to evaluate the performance or success of projects. Owners/managers should always be aware of new measures, goals and objectives that develop and that should be incorporated into projects (Zimmerer and Scarborough, 1998:54).

It is clear that strategic management does not utilise only one type of information found in one business process. Effective strategic management depends on the availability of all information about the business generated by various business processes, as well as information from the external environment. Through the combination of all this information a strategic plan can be formulated to ensure the competitive advantage and success of the business.

3.4.2 *Financial management*

Financial management is the control, i.e. planning and organisation, of all the financial activities of an SMME. Through this process the maximum amount of capital is generated so that a profit can be achieved (De Beer [et al.], 1996:25, 32).

The activities controlled by the process of financial management are financial planning and policy, financial analyses, capital needs, taxes and insurance and financial statements (De Beer [et al.], 1996:25, 37-41).

Certain information needs must be met to ensure the functioning of these financial activities. Firstly, information is needed concerning possible capital resources. These resources can be within the business or outside of it, such as banks. Secondly, information about turnover is necessary to determine the profit and the amount of available capital. Thirdly, information about the amount of stock is needed to determine the saleability and budgetary needs of each product. Fourthly, information is needed about creditors and debtors so that accounts can be paid and funds owed collected. Information about creditors includes personal information and dates of payments (De Beer [et al.], 1996:141-142). Fifthly, information about financial markets is necessary because such information can influence imports and exports. And finally, information about the financial position of competitors is required. This will aid in the planning of the company's financial strategy (Lowe, 1999:151).

Through the process of financial management information is created that becomes important for the successful management of finances. Financial analysis is a way to discover information in the internal environment of SMMEs. Through this analysis, information on the current financial position of and existing trends in the business can be discovered (De Beer [et al.], 1996:37-41). For example, by analysing the capital brought in over a period of time it can be determined at which times during this period capital was more, and at which times it was less. This information can be used to determine trends in sales so that stock can be adapted. Information needed and created in the process of financial management is very important in the planning of future developments.

3.4.3 *Marketing*

This process involves advertising products and services delivered by SMMEs (De Beer [et al.], 1996:45). The impact of the marketing strategy on consumers is instrumental in the success of SMMEs. Effective marketing can increase the success of the product or service, but poor marketing could have the reverse effect and cause the business to fail. All the available information should be utilised to develop the best possible strategy.

Some information needs must be satisfied to ensure the success of the marketing process. The first need is that of knowing the clients. The SMME must be aware of clients' needs so that a marketing strategy can be delivered to encourage the clients to use the product or service. For example, if the product is a new doll for 6-10 year olds, a life-size version of the doll or a competition clients can enter on purchasing the doll may

be provided to create awareness of the product and hereby increase sales (De Beer [et al.], 1996:46; Scarborough & Zimmerer, ©2000:173).

Secondly, the business's budget strategy must be known. Information about the amount of funds allocated to the marketing process is necessary (De Beer [et al.], 1996:141-143). This is important so that the whole strategy for the marketing of a product or service can be budgeted accordingly. If this is not known, more funds than were allocated might be spent, which could damage the business financially, especially if the marketing strategy is not successful.

Thirdly, in the marketing process it is also necessary to acquire information about the competitors of the SMME (De Beer [et al.], 1996:141-143; Sirigindi, 1996:22-28). This is necessary to prevent the business developing the same strategy as other businesses. It also assists in the identification of weaknesses and mistakes so that they are not duplicated.

In the fourth place, information about the prices of the products or services sold in the marketing process is necessary (De Beer [et al.], 1996:141-143; Scarborough & Zimmerer, ©2000:204-205). This is important because the price of the product or service will have an impact on the sales and the profit of the business. Awareness of any extras provided when the product is purchased or the service used — such as free delivery, test periods or guarantees — is also important. These gifts or services have marketing value that can influence the sales of a product or service (Scarborough & Zimmerer, ©2000:204-205).

Lastly, information about the latest trends in marketing, such as flyers, life-size versions or competitions is also very necessary. The government may also have adopted new regulations and legislation regarding marketing, such as highway billboards that must be 10m away from the road. The local community where the business is located may also have some regulations on advertising and other marketing activities that must be taken into account.

In the marketing process information is also created. The type of marketing used provides information on the clients and the market the company moves in, and also gives insight into the social structure of the community and how it changes over time. A large archive of what has been done in the past, that can be used to determine what works in marketing

and what does not, is therefore created. The marketing archive also shows how a business's marketing needs change and how the business grows. This information can be used to determine possible future marketing trends, clients and markets.

3.4.4 Production

Production is the creation (or purchase) of the product the business wishes to sell, so that the needs of the clients are satisfied (Scarborough & Zimmerer, ©2000:200). De Beer et al. (1996:69-70) states that there are three types of production systems, namely job production, batch production and flow production. Flow production involves the production of only one product or a part of a product and is a highly standardised procedure. Batch production involves the production of more than one product, but these are identical and created in large quantities. Job production is the creation of a product (or service) according to the needs or designs of the client, for example: a house or furniture.

When a product is designed, certain information is required to satisfy the needs of the client as well as those of the producing business. In the first case, the purpose of the product must be known, so that its design can be made to support its use and in so doing produce a better product. Secondly, what raw materials will be required for the manufacture of the product must also be known, so that they may be purchased if not available (De Beer [et al.], 1996:71-74). Thirdly, information on production costs is needed. This will help to determine whether the product is worth making and what its market price should be. If the production costs are high the market price will rise. If this price is too high for the target market it may not be worth producing. Fourthly, information about other products with the same features must be established. This provides an opportunity to evaluate other products and design higher quality ones. Information on patented products with the same functions should also be studied. Ignoring patent information can create legal problems (De Beer [et al.], 1996:71-74, 141-143). Fifthly, information on national and international standards, such as the SABS standards, is needed. These standards, if abided by, ensure the development of a widely accepted product. Lastly, information is needed on possible problems or difficulties that may be experienced by clients using the product. The knowledge of these problems and difficulties is used to develop an after sales service to handle customer complaints.

During the production process information is created that can enhance the use of the product and add to client satisfaction, which, in turn, will boost the success of the

business. Regular questions and complaints made by clients are used to determine frequently asked questions (FAQs). These FAQs can either be used to improve the product or create a new one, and may also be distributed to clients, reducing the number of direct customer queries. The production of a product also creates information on the use of the product. Such information can be used to create guidelines for use and is usually distributed with the product.

The use and re-use of information built into the design of a product can result in a better or possibly even a new product.

3.4.5 Purchasing

Through the purchasing process the correct quality, availability and quantity of the production means (raw materials), product or service, is ensured (De Beer [et al.], 1996:84). These requirements are satisfied through the utilisation of product information as well as supplier information.

When planning the purchasing of a product, certain information must be available. Firstly information about the business's inventory is necessary. The correct number of products available must be known so that an accurate order can be placed. Knowledge of out of stock products provides information about brands, qualities, colour and style of products preferred by clients. Information about competitors is also very important. Such information is collected from clients, sales personnel, journals and other publications, as well as suppliers that deliver the products (Starting a small business..., ©2002).

The other important factor, on which information is needed, so that purchasing can be done successfully, is suppliers. A supplier is a business responsible for the on-time delivery of purchased products. Information about suppliers includes personal details, such as names, addresses and telephone numbers (De Beer [et al.], 1996:98). Also available are order and delivery dates, and these can be used as a source of information regarding on-time delivery as well as the condition of the goods received. Other information needed about suppliers is prices, geographical area covered by the supplier as well as other possible suppliers that can be used.

3.4.6 Human resources management

The management of human resources involves the effective use of people and their skills. Human resources management consists of five activities: recruiting, selecting, training, performance appraisal and the compensation of staff (Hodgetts & Kuratko, ©1998:326).

If additional staff members are to be recruited it is firstly necessary to determine what type of person is needed and how many are required (Hodgetts & Kuratko, ©1998:327-328). This means that a job analysis must first be done so that the right person is recruited. A job analysis consists of a job description and job specifications. The job description specifies the responsibilities of the person hired to do the job and the job specifications are the background, knowledge and skills the hired person will require (De Beer [et al.], 1996:114-117). To compile a job analysis, information about the current and future processes is necessary, such as whether there are parts of processes that would improve if an additional person or persons were working within the process. Information on the financial status of the business is therefore necessary to determine if additional personnel can be hired.

Recruiting personnel involves the announcement that jobs are available in the business. This can be done through advertising in local papers or on websites. Contacting schools, universities, recruitment agencies or asking around within the business can also be of use in finding the right person for the available job. It is clear that information about recruitment agencies and training centres, such as universities, are necessary so that those that will provide the most likely candidate can be identified. Using an agency or training centre will provide the SMME with information it may use again when recruiting new staff, such as the quality and usability of service received.

The next step and second activity of human resources management is to select the new member of staff. This involves scanning application forms and scheduling interviews. During these sessions the candidate's interests, qualifications and overall suitability for the position are further evaluated so that an informed decision may be made (De Beer [et al.], 1996:121-123). The new member is then selected and introduced to the rest of the staff. When selecting staff members the interviewer will require information on how to conduct the interview, such as the type of questions to ask and what other subjects to discuss. Application forms and notes taken during the interviews can later be used when performance appraisals are done.

A third activity is to train (also called orientation) this new member of staff for the specific job, and also provide further training possibilities for staff so that they can learn new skills and adapt to new developments within the business and the economic environment (Hodgetts & Kuratko, ©1998:330-333). Usually an orientation program is developed in such a way that the person gets used to the business and its environment by working with someone that already has the knowledge. Orientation can also be achieved through other methods, for example a conference, workshop, lecture and even role-playing. The method chosen depends on the needs of the job. When training new staff members the person responsible must have information on the new member's responsibilities and tasks. Information on methods of orientation, for example how they are done or what are the newest methods available is also necessary.

SMMEs economic environment is fast changing and this means that the staff members in SMMEs need to be able to adapt to changed environments, which is usually just possible through the learning of new skills. Providing opportunities for staff members to develop their skills is a good investment because it provides the business with highly trained personnel in the newest available technologies and methods of management that can only be of great value to the success of the business. Management will need information on changes occurring in the external environment, for example economic or technological changes that could affect the way the business is run. Information on new training courses, for example costs, curriculum and duration, are necessary when deciding whether it is necessary to send a staff member and how many can be sent.

A fourth activity of human resources management is performance appraisal of staff members and involves the formal and systematic assessment of personnel to determine how well they are doing their job. This is necessary so that the management and individual staff members can see how they are performing in the business. It is especially important to management when salary increases or promotions are given and when it must be decided if a person should be transferred or discharged (Hodgetts & Kuratko, ©1998:334-336). Information on performance appraisals must include how it is done, who should be responsible, when is the best time to do it and how often should it be done.

The last activity of human resources management is compensation or the salaries and benefits, for example insurance, retirement or subsidies, given to staff members in trade for their skills and knowledge and time (Hodgetts & Kuratko, ©1998:338-339). Information on required benefits and scales for salaries are a must. SMMEs should also be aware of

any new labour legislation that was adopted by the government especially in regard to work hours, discipline and the discharge of staff members. Human resources management is not an easy process and requires a lot of information so that the different activities can be done successfully.

Being aware of information needed by different processes and using the information when it is gathered or created within the business processes will make the SMME economically successful but also keep it competitive so that further development and even more success will be possible.

3.5 Conclusion

It is clear from the above paragraphs that SMMEs are not information poor. The information can be used to make decisions and create new products or services and so give the information-intelligent SMME a competitive advantage above its competition.

The amount of information available in SMMEs is unfortunately vast. Smaller businesses cannot navigate through all the available information and store everything that is created. SMMEs do not have the personnel and other resources necessary to control the information. This sometimes results in them not giving any thought to the use of information and this could be even more disastrous.

SMMEs should only focus on information that can be described as critical for their survival, therefore without this information the business will definitely fail (Duncan, Beckett & Marsh, 1998) (see also chapter 4). It is this information that should be created, captured and organised so that it can be used again and again in the business. Although the SMME could not ignore non-critical information, it will only be necessary to look for such information when the need arises.

Chapter 4

Information organisation in SMMEs

4.1 Introduction

Knowing what information is available to and in SMMEs is not enough to ensure a successful, competitive business sector. This information must be managed, and specifically organised, so that maximum benefit can be derived from its continuous use. Information that is managed and organised is easy to access and utilise, and this is necessary to stay competitive and successful.

In order to ensure that information is managed accurately the process of information management is used. An important part of management is the organisation of information so that it can be retrieved and used whenever needed. Knowing what information is available, and how and where to find it is an important ability an SMME must possess to stay competitive and be successful in the new knowledge-based economy.

In par. 4.2 the whole area of information management is described briefly in order to provide a context for the more detailed treatment of information organisation in par. 4.3.

4.2 Information management

4.2.1 *Definition of information management*

Rowley and Farrow (©2000:15) and Choo (1998:24) see information management as the enhancement of the capabilities of an organisation through the control of its information sources, in order to adapt to the requirements and/or changes in the organisation's external and internal environments.

Choo (1998:24) developed information control through the definition of this concept as six different activities (see fig.4.1). Some of the six activities can be found in Soergel (©1985:41) as the functional components of an information system; namely: determining of needs, acquisition of information, information storage and retrieval and making informa-

tion available. Information storage and retrieval is used as a synonym for information organisation.

Therefore information management can be defined as a process that enhances the capabilities of an organisation to adapt to an ever-changing environment through the implementation of a continuous cycle of six activities, namely the identification of information needs, information acquisition, information organisation and storage, development of information products and services, information distribution and information use.

4.2.2 The importance of information management

Effective information management promotes and enhances the organisational effectiveness of any system, such as a business or academic institution, in which it is used. The different activities of the process help to develop an intelligent organisation that learns from its information and changes its behaviour to adapt to developments in the market and business environment (Choo, 1998:23-24; Rowley and Farrow, ©2000:15). This means that through information management, decision-making can become faster and more efficient because of the availability of timely, accurate information (Wiig, ©1994:131-132).

The availability of information ensures better handling of customers, which will improve customer relations. This can lead to increased market share and productivity. Products and services can easily be adapted to the needs of the clients and the quality of the products can be greatly improved. Information management, therefore, can maintain and increase the competitive advantage of an organisation (Matthee, 1994:6; Wigg, ©1994:132-134).

The SMME sector can take advantage of the positive impact that information management can have on the organisation. Effective information management ensures that the right information is available when it is needed. This reduces the time spent on finding information, and is essential in an SMME where personnel have little time to spend on searching for the right information. Current and timely information will increase not only the speed of decision-making but also its effectiveness. Owners/managers can thus be more certain of their decisions and this can increase the success of an SMME.

Correct information management will also ensure that any changes in the market can be easily met without too much disruption in the SMME. The possible changes would have been identified through analysis of collected information and the appropriate solution or steps would have been developed before it became a necessity or a possible danger to the success of the SMME.

The benefits of information management can only be experienced if the process is implemented throughout the whole organisation and is followed by all personnel. Poorly managed information, according to Laudon & Laudon (2002:206), causes chaos, high costs and poor performance of the business, as well as its employees.

4.2.3 *Process of information management*

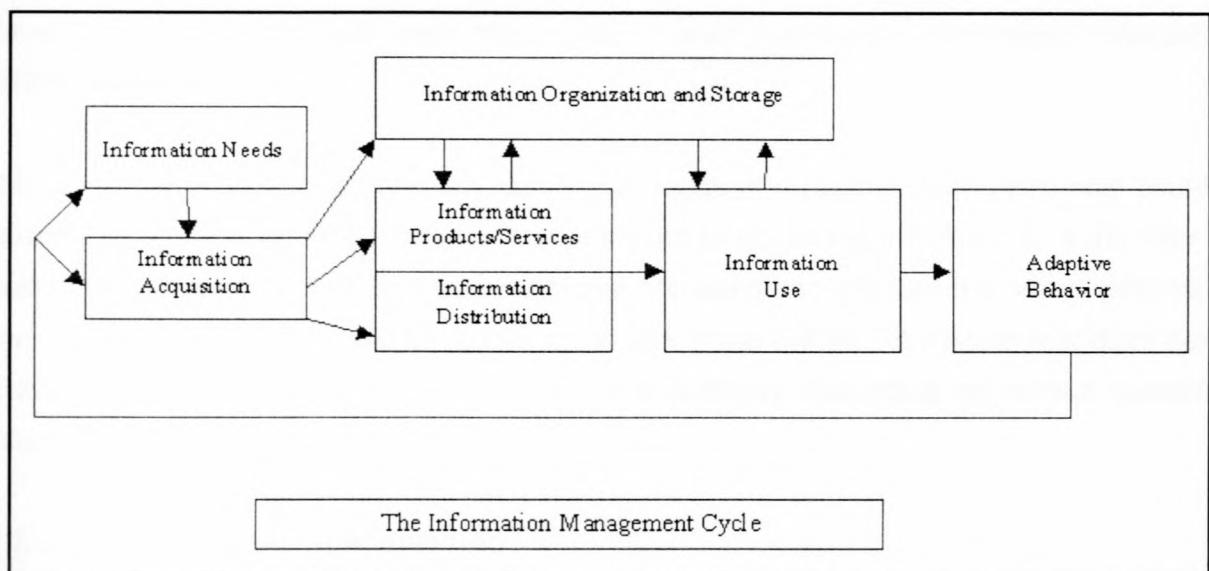


Figure 4.1: Choo's information management cycle (Choo, 1998:24)

The process of information management is dependent on the successful implementation and use of the cycle of the six activities shown in figure 4.1. Each of these activities must be carefully planned and executed to ensure the effectiveness of the information management system.

4.2.3.1 Determining information needs

The discovery of the information needs of the personnel within an organisation is the first step in the process of information management. These needs arise from problems and uncertainties that are encountered in the daily routine (Choo, 1998:26).

When determining the information needs of staff members it is important not only to determine what information is needed, but also why the information is needed and how it will be used (Choo, 1998:199; Soergel, ©1985:44-45). This could have an impact on the type or the packaging of information being delivered. Possessing this information will lead to delivery of information of greater value and utility to customers and personnel.

Although staff members may be willing to voice their needs, some needs may be kept silent, or staff members may even be unaware of some needs. It could be necessary to develop a method that will track the needs of staff members continuously (Soergel, ©1985:44-45).

Delivering information that does not satisfy the needs of customers and personnel could cause a loss of the working time and finances used to obtain the information. If the information needs of customers and personnel are not taken into account the whole information management process will have little or no use in the SMME. A system that does not deliver the correct information is of no use to a business depending on correct, current information.

4.2.3.2 Information acquisition

After the information needs have been identified, the necessary information must be acquired to satisfy these needs (Choo, 1998:24; Soergel, ©1985:45). To acquire information the identified needs of the users of that information must be analysed so that the information to be collected can be determined (Soergel, ©1985:44-45). The acquisition of information results in an unorganised collection of data (Soergel, ©1985:44).

It is clear from the previous chapter that organisations collect large amounts of data from the internal and the external environments (see Chapter 3). The data that will be available in an organisation depends on the type and goals of the organisation.

Shokane (2003) conducted a study on information use in small and medium enterprises in Acornhoek (South Africa). The study identified a variety of different sources of information that can be used by SMMEs for information acquisition. The information sources that were identified include discussions, local authorities, radio and television, commercial banks, journals, trade associations, patents, standards, the Internet and libraries (Shokane, 2003:58-59).

The study found that the most popular information source was discussions with friends, family, associates, customers and suppliers. The Internet was not widely used in the area, especially because most of the SMMEs did not have access to this resource (Shokane, 2003:59). Many information sources are available that can be used to acquire information needed in the SMME.

To ensure that only the best information is collected — that is information that will enhance the business's goals and objectives — an acquisition plan must be put into place. Use should be made of in-house specialists as well as training and skills that staff members already possess.

The information sources from which information is received should be monitored and regularly evaluated so that old or inapplicable sources can be removed (Choo, 1998:24, 29-31).

Information acquisition must always consider two factors. The first of these factors is the need for information by the organisation. These needs can be diverse and a balance between the different needs of different levels of personnel must be maintained.

The second aspect that must be taken into account is the capacity of the human mind. A person can only process so much information (Choo, 1998:199-200). This means that, when acquiring information, an organisation must only collect that which is necessary to satisfy the specific needs.

Businesses, especially SMMEs, should therefore focus on the collection of business-critical information (Duff, 1996:28). Collecting this information will ensure that the needs of the SMME are met and that personnel are not overloaded with information. Therefore focusing on business-critical information could help achieve a competitive advantage that is essential for the survival of an SMME.

After information acquisition, any one of the next three steps can be followed (see fig.4.1). The step chosen depends on the purpose of the information acquired. The information can firstly be organised and stored. Secondly it can be used to create information products or services, and thirdly it can be distributed (Choo, 1998:24-25).

4.2.3.3 Information organisation and storage

The activity of information organisation and storage has the purpose of keeping the information for later use. Soergel (©1985:45) describes this as the information storage and retrieval component.

Storing the information makes it part of the organisational memory, which improves the knowledge and the expertise of a business (Choo, 1998:24-25). The stored information may be used later to create information products or services, or it may be used in other activities, such as decision-making, or distributed when it is needed.

The organisation and storage of information may be done electronically using computers, such as in folders and databases, or manually in more traditional systems, such as filing cabinets (Choo, 1998:200).

4.2.3.4 Information products or services

Information products or services are another application of acquired or stored information. These products and services will add value to the business through the effective packaging of information.

The value added to information helps people to find solutions to problems and better make decisions. This is possible because the packaging of information makes it easier to use and it excludes unwanted information. This results in a product or service of quality that does not cause stress or apprehension on the user's side. The user can therefore concentrate on more important matters (Choo. 1998:25, 38-39).

These products and services are not only created using information, they also provide the user with information that can again be stored for later use or distributed for immediate use. Examples of information products and services are annual reports, bulletins and the selective dissemination of information.

4.2.3.5 Distribution of information

Acquired information can be immediately distributed to the users that require it. Soergel (©1985:45) calls this "making information available to the user".

The distribution of information increases information sharing in the business. Information sharing can provide needed views and interpretations to assist in decision-making and problem solving.

The distribution of information must make use of formats that are easy for personnel to use, re-direct to others and comment on. A system that ensures that the right information reaches the right person must be put in place. This will ensure that information management is done effectively (Choo, 1998:25, 200-201).

4.2.4 Information use

Whether the information that was acquired is organised and stored, used to create information products or services, or distributed immediately, the next step in the process of information management is the effective use of the information (Choo, 1998:24).

This activity is the incorporation of information into the existing knowledge of the person or group and is used to aid decision-making or problem solving. To perform this activity the information must be of high quality, accurate and timely. If this is not the case the wrong solution may be reached and this could affect the productivity and success of the business.

4.2.5 Behaviour of the information user

The last step in the information management cycle is the change of behaviour of the person or the organisation (Choo, 1998:24). This means the execution or implementation of the decision or solution. If this activity is completed new information needs are born and the whole process of information management starts over.

It is clear that, should the wrong information be used at the time of decision-making or problem solving, the organisation could move in the wrong direction. This places an extra burden on the cycle to discover the problem and deliver the information that would rectify it.

The process of information management is important in today's business to ensure that accurate and timely information is used in making decisions. This is very important in a knowledge-based economy where there is no time to make wrong or incomplete decisions and problems to solutions must be found as quickly as possible.

The process of information management that is adopted by an SMME and executed effectively provides a continuous flow of information through the SMME and its processes. This information can be used and re-used in different aspects of business management. Each time it is used it adds value to the SMME, increasing its competitive advantage and making it more successful.

4.3 Information organisation

It is evident from figure 4.1 that the organisation of information is an integral part of the cycle of information management in business. Effective information organisation ensures that information can be retrieved when it is necessary.

4.3.1 Definition of information organisation

The activity of organisation is necessary, not only for neat and compact storage, but also for quick retrieval when necessary. The same is true of information: in order to find information and use it, it must be organised (Taylor, 1999:2).

Information organisation can therefore be seen as the systematic storage of information in such a way that it can be retrieved, shared and used (Choo, 1998:33).

4.3.2 The importance of information organisation

Information organisation provides a framework that organises the information in a logical way, resulting in properly arranged and maintained information. This ensures that information can be easily accessed and retrieved by its users (Laudon & Laudon, 2002:206; Soergel, ©1985:3,5).

If information can be easily accessed it decreases the time the user must spend searching and waiting for the correct information (Soergel, ©1985:55). The time saved in this way may be used for other tasks that could increase the success of the business.

The organisation of information can enhance problem solving, decision-making and solution finding (Soergel, ©1985:95). Through organisation, hidden information in sources or figures about trends, concepts, needs and possible market changes can be revealed. This information can provide the necessary information for decisions, problem solving and even new directions that a SMME could take. Organised information is also part of the organisational memory and can therefore be used any time it is needed.

Information organisation is also very important in the further development of more complex systems for the effective management of increasingly available information (Boon, 1994:106). Initial information organisation ensures that if a more complex system is needed the information is already organised and no extra work is needed.

Organising the information that is needed and used in a business reduces information overload as well as information anxiety and fear. An overload of information causes users to fear that they do not have enough or the correct information, which leads to fear of information. An effective information organisation structure in a business ensures that the right and correct information is available when it is needed. This gives confidence to the personnel, especially the decision-makers. In an SMME with no information specialist trained to reduce information overload, fear and anxiety, effective information organisation could decrease the effects of these problems, creating a better working environment and increasing job satisfaction, success and profit.

4.3.3 The activities of information organisation

Taylor (1999:3-5), using Hagler's (1991) six functions of bibliographic control, describes the different activities of information organisation. The activities are identification of information resources, identification of information within sources, collection creation, collection lists, adding of titles, subjects and keywords and locating information.

4.3.3.1 Identification of information resources

Information sources must be identified as they become available (Taylor, 1999:3). When organising information, therefore, one must know what format information sources are available in, and what type of information is available. This will ensure that organisation is carried out effectively.

In an SMME information resources can be found in one of three different formats: printed (documents, journals, books and government publications), electronic (Internet, CD-ROM databases, E-mail and online databases) and oral (telephone calls, radio and television and conversations). The personnel of an SMME must be aware of the different formats that could be useful in the business. Not all SMMEs will be able to use all the different available formats. Constraints such as the availability of technology, personnel and funds make it necessary for an SMME to decide which formats will be best suited to the business. The formats of information resources used depend greatly on the type of information needed.

The type of information available in an SMME will greatly depend on the business processes in the business. To successfully conduct a business process different types of information are needed (see par. 3.4). In an SMME there should be awareness of what type of information is necessary, what types are available — for example financial information — and what format the information is available in.

The vast amount of information resources available makes it necessary for an SMME to have a clear definition of the information it needs. Knowing what information is needed makes the discovery of information resources (the format and type) easier. A system that continuously discovers sources should be put in place. This can be a staff member of an SMME who searches through catalogues of newly published sources every month.

4.3.3.2 Identification of information

This activity entails the identification of information contained in one information resource (Taylor, 1999:3). This can also be seen as the identification of the subjects covered in an information source such as a journal, a journal article, a website, an email or a fax message.

A yearly report of a business might contain information about a company's history, financial situation, personnel, products and services, partnerships, new directions, community service and charity work. All these micro subjects must be a part of information organisation. These subjects also contain information that can be important to problem solving and decision-making.

If a business such as an SMME only organised the yearly report as a whole the information on more specific subjects contained in the report would be lost. SMMEs should

analyse the information resources they receive and organise all the subjects that are of importance to them. SMMEs should be selective about the sources that they organise. It is not necessary to organise the whole or all parts of a source if the subject is not of critical importance to the SMME. This will ensure that only the most important information is available when it is needed.

4.3.3.3 Collection building

This activity entails the creation of collections of information from all of the identified information sources (Taylor, 1999:3-4). If all information resources are kept in separate locations, it will not be easy to find specific information.

The organisation of information into collections, such as documents in specific subject areas or specific types of documents, makes these information sources, and information itself, easy to retrieve. For example, in an SMME all the documents on the subject of finance could be placed in an electronic finance folder or all the documents created in MS Excel can be placed in a folder called Excel. The person searching for information can go directly to the right collection and retrieve the information that he or she needs.

Personal collections containing the information used by one specific staff member can be created. A company-wide collection using a server or a document management system can be created that is accessible to all staff members anywhere in the company. Information is therefore immediately available in the company when and where it is needed.

4.3.3.4 Collection lists

This activity entails the production of lists of these collections, according to set rules (Taylor, 1999:4).

It is not enough to organise information resources into different collections. If a collection is created through the grouping of information, the organisation will not be very effective if there is no record of what information is contained in the file. The only definite aspect of the finance folder is that it contains financial information. There is no information on what type of financial information, what format it is in, its title or author. Therefore it is necessary to create lists of the collection so that there is record of what financial, marketing or administration information is available.

Creating lists of collections cannot be done at random. Rules that govern the format, needed data and method must be available to create the lists. These rules can be created by an SMME or standard rules such as the AACR2 or the Harvard referencing style — which contains rules for bibliographic details such as the title and author — can be used. Using rules that govern bibliographic information, such as author, title, year and publisher also provides additional information on the information source that can be used to determine its authority. An old publication date could signify that the source or information is outdated and should be replaced.

Through the creation of lists, a record of the sources available within a large subject area, such as finance, marketing or administration, is established.

4.3.3.5 Allocation of titles, subject and keywords

This activity of information organisation is the breaking down of information through the provision of specific subjects and keywords (Taylor, 1999:4-5). This activity involves in-depth organisation of information so that small pieces of information within large entities can be found with little effort.

It is not sufficient to make a list of all the resources within a wide subject area. This will most likely cause specific subjects to be lost, which could make it difficult to find specific information. In marketing, for example, there can be information on logos, advertisements, policies and quotes. All of these are more specific subject areas about which information is available and must be organised to ensure that it can be found.

The allocation of subjects that are available must be done using a standard system containing a set of rules. Many systems exist for the allocation of subjects, for example classification systems, indexing and catalogues. Most of these systems were developed for libraries and information centres and are not easily adapted for use in businesses, especially SMMEs. Staff of an SMME can develop their own system of creating lists of subjects. The system used should be consistent to ensure that sources and information can always be found. If the system is not used consistently then subjects for each source with the same subject will not be allocated correctly. This will increase the difficulty of finding all information on a specific subject within a broader topic.

4.3.3.6 Locating information sources

The last activity of information organisation is the ability to locate the information resource (Taylor, 1999:5). This means that the information resource must have a physical location so that it can be located and the information it contains used.

These locations can be an information centre, a computer or even the Internet. In an SMME the information resources can be stored either manually or electronically. Manual storage is mainly used for printed information sources and can be filing cabinets, ring binders or card systems. Electronic storage is used for any information sources available in electronic format. The methods of storage are usually folder structures or databases. In the case of an Internet source the physical location of an information source is its Internet address (URL).

Information organisation is not an easy nor a simple process, but a complex one that must be conducted according to certain rules. The process of information organisation and its activities should be carefully considered and planned. Procedures, policies and responsibility for each activity should be developed to serve as rules that govern the organisation of information. These rules are necessary to ensure that information is organised consistently. If this is not done information organisation will be of no use. Everyone will organise according to his or her own rules and information will easily be lost in the system. Information organisation therefore ensures that information can be found each time it is needed.

4.3.4 *Information organisation systems*

In paragraphs 4.3.3.4 and 4.3.3.5 different systems are identified that can be used to allocate subjects and organise information sources. The system implemented by an SMME will be determined by the type of information available, the information needs of the business and the way the information will be used (Soergel, ©1985:46-47). Any system that might be used for information organisation must always be investigated and evaluated to determine its functionality and usefulness in the SMME. Each system has its own set of rules that govern the use and implementation thereof.

4.3.4.1 Catalogues

Cataloguing is a method of bibliographic control that can be used to organise information. The product of cataloguing is usually a list that contains bibliographic information about information sources organised according to author, title or subject.

Judge, Arthur William
 Car maintenance and repair/by Arthur W. Judge. 6th ed. London: Chapman and Hall, 1972.
 466p: ill; 19 cm. (Motor Manuals; 4).
 ISBN 0412-01050

Figure 4.2: Example of an author catalogue entry. (Rowley, 1992:8)

The catalogue, printed or electronic, provides a key to the information source (Pollitt, 1989:35). It not only contains the bibliographic detail of the source but also the address or physical location of the source so that it may be found and used.

Two main types of catalogues are used, namely printed and electronic catalogues. There are three main types of printed catalogues: author, title and subject catalogues. Sometimes an author/title catalogue is created (Rowley, 1992:9). These catalogues are mainly organised alphabetically according to author, title or subject, except if it is a classified subject catalogue. A classified subject catalogue is organised according to the notation of the classification system (Pollitt, 1989:35-36). This could increase the difficulty of finding a specific subject in the catalogue if the place of the subject in the notation is not known.

The difference between printed and electronic catalogues lies in the entry point. The entry point is the heading under which the record is entered into the catalogue, and determines what type of search (author, title or subject) can be done. Figure 4.2 is an example of the author as an entry point. An electronic catalogue also has the three main entry points of the printed catalogue, but all of them may be accessed at the same time with one search. Printed catalogues may only be searched one at a time and the type of search depends on what information is available regarding the source. An electronic catalogue also has the possibility of providing more entry points, such as the series title and date of publication.

Catalogues are most commonly found in libraries but not exclusively. Businesses also make use of catalogues to organise collections of publications and information resources available in the business. SMMEs could also make use of catalogues that serve as direc-

tories to documents. Different types of publications such as reports, contracts and agreements that are stored in filing cabinets, ring binders or on the computer can easily be placed in lists under their author, titles and subject. This would make all of the sources accessible from one point irrespective of their location.

SMMEs can easily create catalogues using MS Word, MS Excel or MS Access. The problem is however that if the collection expands rapidly it is very difficult to manage it with an MS Office application that is not designed to handle a lot of information. It should also be remembered that the larger the collection of information resources the more difficult it is to use a catalogue, especially a subject catalogue that must cater for very diverse subjects. It is difficult to search through a large catalogue, especially if it is printed. If it is electronically available the search function (Ctrl+F) can easily be used to search.

Apart from MS Office applications electronic systems for cataloguing are also available. These systems can be very expensive and are usually used in large libraries or companies. Smaller cataloguing programmes that are not as expensive are also available. These are mainly known as personal bibliographic database programmes, such as ProCite, Reference Manager, End Note and Library Master, and are designed for personal use. Such an electronic system can easily be used in an SMME to create catalogues.

The implementation of a catalogue for information organisation in an SMME is a great possibility.

4.3.4.2 Classification systems

Classification is the systematic arrangement of information using notations to represent subjects. Examples of classification schemes are Dewey Decimal Classification (DDC), Universal Decimal Classification, Library of Congress Classification and Bibliographic Classification (Foskett, 1996:217).

- | |
|--------------------------------------|
| 000 Generalities |
| 100 Philosophy and psychology |
| 200 Religion |
| 300 Social sciences |
| 400 Language |
| 500 Natural sciences and mathematics |
| 600 Technology (Applied sciences) |
| 700 The arts |
| 800 Literature and rhetoric |
| 900 Geography and history |

Figure 4.3: The main classes of the Dewey Decimal Classification (DDC) system with notations (Rowley, 1992:202).

Classification systems organise information according to its specific subject (Pollitt, 1989:25). This means that all the resources concerning the same subject are placed next to one another. The notation used (e.g. 330.986 in DDC) is also the entry point. This means that every time a new source is added to the collection it receives the same notation as other sources with the same subject and is filed with them. Classification makes the search for information on a subject easy because all information on one subject will always be in the same place. The problem is, however, that if information about one particular author is sought it will be very difficult to find if the author wrote about different subjects. All his or her works will be dispersed throughout the system (Pollitt, 1989:35-36).

A classification system should be hospitable in the sense that it allows the classifier to add new topics in the correct place. The correct notation must then be generated by the classifier to insert the new topic into the system. These (classification) schemes are also flexible and allow cross-referencing that shows the searcher related subjects that could be of use in his or her inquiry (Foskett, 1996:217).

SMMEs that have a large amount of data can make use of a classification system to organise and make information readily available to all who require it. There are, however, no classification systems specifically designed for use in an SMME. SMMEs would therefore have to develop their own classification systems. The problem with this is that owners/managers of SMMEs, as well as other personnel, do not have the necessary skills or the time to develop a classification system.

Classification systems can be very complex and difficult to use and this could unfortunately result in the loss of information. If one person was responsible for the development of a classification system for a business and he or she leaves the business it could be that nobody knows how to use the system and information could be lost. The best use of a classification system is to use it throughout the business. This will result in everyone knowing the system and information arranged by the system can be found by anyone who is searching for it.

4.3.4.3 Indexes and thesauri

Indexes contain pointers to the sources that can be found in a collection (Rowley, 1992:7). Indexing languages control the language used in the allocation of subjects and can be divided into two types, namely subject headings and thesauri (Rowley, 1992:242).

Subject headings are lists of index terms that can be used in the organisation of information in indexes, catalogues and databases (Rowley, 1992:242). Examples of indexing languages that can be used to organise information are: *Sears' list of subject headings* (Rowley, 1992:243) and *Library of Congress subject headings* (LCSH) (Rowley, 1992:247).

Gravity waves
UF Waves, Gravity
BT Gravity
Hydrodynamics
Waves

Figure 4.4: An example of subject headings in LCSH (Rowley, 1992:248)

Thesauri provide a standardised vocabulary and usually contain words and phrases – referred to as descriptors and entry terms – that show synonyms, relationships and dependencies. Thesauri are more specific in subject coverage than lists of subject headings (Rowley, 1989:252; 267). Thesauri also cover mostly one subject or area of study, for example the *ERIC Thesaurus* that is used in education. Both of these methods are used to control vocabulary in information organisation to ensure that there is consistency in the allocation of subjects and therefore in the organisation process itself. The only difference between these two methods is that thesauri do not allow the building of complex subjects. Complex subjects can be built using lists of subject headings. This ensures a detailed description of the subject covered by the source.

DORMITORIES
UF Dormitory Living
Residence Halls
BT Housing
RT College Buildings
College Housing

Fig.4.5: An example of controlled vocabulary in the ERIC Thesaurus (Rowley, 1992:257)

These indexing languages make it possible to find the correct format for the specific subject covered by a document. The subject allocated to the document using a list of subject headings or thesaurus can be placed in a list with a reference to the specific document, making it easily accessible.

Subject headings also allow for the creation of references to related terms, for example narrower terms (NT) or broader terms (BT). Searchers of information can also be directed to related subjects (RT) that do not cover the subject but can be of interest and might lead to further relevant information. This helps a searcher to expand or narrow his or her search and so find all the relevant information on a subject.

Lists of subject headings provide subjects with fixed formats, such as anticipating the existence of synonyms, homonyms and acronyms. These lists provide standardised rules of what should be done with each of these instances. For example in the case of synonyms one of the terms is chosen, the preferred term, and all the sources on this subject are organised under this term. Some searchers may look under the synonyms and so an entry for the synonym is also created, but with a reference to USE or SEE the preferred term (Pollitt, 1989:45-46). For example:

Country churches. **SEE Rural churches** (Rowley, 1992:246).

In the above example country churches and rural churches are synonyms. The preferred term that was chosen is Rural churches, but an entry was made under country churches with a see reference to go to rural churches for information on this subject. Acronyms are seen as synonyms and therefore treated as such. Homonyms are provided with a definition to distinguish between the two meanings, for example Cold (Disease). The term disease defines which cold is meant. This ensures that the correct term is always used when organising information and referencing ensures that information can always be found by the person who is searching for it.

Indexing may also be done using natural language, but this increases the problems caused by synonyms, homonyms, acronyms and scientific terms. In natural language indexing there are no rules that govern the way these aspects should be handled. Any of these aspects can cause information to be lost, because the same terms are not used by all people (Rowley, 1996:271). Indexing languages like LCSH might take longer to learn, but they are built on rules that make the organisation and retrieval of information easy and a lot more effective.

Any of the systems that are used for information organisation, especially in traditional centres of information like libraries, can be used in a business environment like SMMEs.

Subject headings and classification systems can be used to organise filing cabinets and even folder structures on the computer. Information that is placed in databases can be described using subject headings, making it easy to retrieve if these same headings are used throughout the business. Documents that are created in MS Office can also be given keywords in the properties dialog box of the document. These keywords may then be a standard set of indexing terms that can be used to find the documents when a search is done using the Microsoft search engines for Windows and MS Office. Using a standard set of indexing terms to describe these documents can make them easy to retrieve by any personnel working in the SMME when the person that created them is not available.

Subject headings can be used to organise information on the web, for example in the creation of metadata. Metadata describe the information that is presented on a website and so make the information more accessible to the user.

The most commonly known and used form of metadata is Dublin Core (Dublin Core Metadata Initiative, ©2002). Dublin Core defines certain elements, such as title, subject and format. These elements are used to describe the information resources and all of them provide a point of entry, therefore any of these elements can be used to find a document. An SMME can adopt these elements when organising its information resources or it can add Dublin Core elements to information that is being published so that it can be easily retrieved. The data presented in the elements of Dublin Core should be standardised so that all the elements are completed in the same way. To ensure that the entries are entered consistently the rules found in catalogues, classification systems and subject headings can be used.

Indexes can also be used to organise information in a web search engine. This can provide direct access to information on certain subjects. An example of such types of indexing is the directories of search engines like Yahoo (<http://www.yahoo.com>) and Google (<http://www.google.com>). The same type of directory can be created in an SMME if an Intranet is used by the business. Such a directory could provide easy access to all information resources placed on the Intranet so that searching for the documents are made easier, with options like browsing through categories or performing keyword searches.

What is important is to choose a system that can grow as the organisation grows, but is relatively easy to use and does not take up too much space (De Beer, 1996:143-151). All of the systems for information organisation can be easily adapted to fit the needs of the business and provide access to accurate and timely information.

4.3.5 *Problems of information organisation in SMMEs*

The process of information management is widely discussed and investigated by authors such as Choo (1998), Martins (1998), Rowley and Farrow (©2000) and Swartz and Boaden (1997). Literature on specific activities of information management, for example: information needs, information acquisition, information services and information delivery is also available. The literature focuses on the methods and practices that can be used to develop the activity effectively and can be easily adapted to the business environment of an SMME.

The authors of literature on information management touch on the activity of information organisation. Literature that focuses on information organisation mostly covers subjects such as classification, cataloguing, indexes and thesauri. All of these are methods of information organisation, but the literature focuses mainly on implementation of such systems in libraries and information organisations, and is often written from an academic point of view. Although the principles of information organisation can be found in this literature the understanding and utilising thereof in a business environment, without the proper training, can be very difficult.

Two classification systems focusing on the organisation of business literature are available. The Baker Library of Harvard Business School compiled "A classification of business literature". This classification system was first published in 1937 and the last edition was the revised edition of 1960. The second is the London Business School Library's classification system called "London classification of business studies (LCBS)".

The most recent edition of this classification system was published in 2001 (London Business School, 2003).

The Harvard Business School classification is outdated and therefore not usable in SMMEs. The classification of the London Business School — just like the Harvard classification system — covers all the subjects of business. This creates very broad complex systems that SMME staff with no training must use. Although some systems for information organisation are available they are not optimal for use in an SMME.

It is clear that there is little, if any, information available on information organisation in SMMEs. It seems as if the perception exists that SMMEs do not have enough information to bother with information organisation.

Another problem is the managers and employees of SMMEs themselves who may not realise the benefits of proper information organisation. To them it is not an important process. Most owners/managers of SMMEs believe that they know everything they need to know, and because their businesses are so small, they know what information they have and where it can be found (Place and Hyslop, ©1982:6-8).

The problem is, however, that knowing where all the information is, is not enough. Without proper information organisation hidden information (see par 4.3.2) will be lost. This could cause the loss of necessary information for problem solving and decision-making that could have a negative impact on the success of the SMME.

The cost of acquiring and maintaining a system for information organisation can be very high (Place and Hyslop, ©1982:6-8). It is however, possible for an SMME to use the principles of existing systems and develop their own system that is better tailored to the need of the SMME.

Owners/managers are often unaware of existing systems and how they are to be used. This makes it difficult to adapt them, but the realisation of the importance of such a system should encourage the SMME to develop the system. Initial cost may be high, but if the system is used properly throughout the business, the long-term benefits will make it worthwhile.

4.4 Conclusion

Information management is a process of importance to any business that wants to maintain a competitive advantage and be successful. Its processes ensure that a business has the needed information to make the right decisions and solve problems. The only difference between SMMEs and other businesses is that SMMEs are smaller, but they have the same information needs that have to be met in order for them to stay competitive. SMMEs must take notice of the process of information management and adopt it to improve their business.

It is, however, important to focus on the process of information organisation. This process will ensure that information can be found every time it is needed. SMMEs, just like large businesses, have a lot of diverse information that must be organised in order to enhance business practices, but managers do not necessarily see the use (and usually have very few examples from literature to lead them to the realisation of the importance) of information organisation in their businesses.

Many different systems are available that can be used for information organisation in SMMEs. Most of these systems were developed for use in a library and information centre environment, but can easily be adapted for use in an SMME.

It is important that the process of information organisation be effective; this means that it should be executed according to a set of rules that is used consistently. The organisation of information should also be done regularly. The best solution is to develop an information organisation strategy that contains the rules and methods of information organisation as well as the persons responsible for the process.

It is the responsibility of the business to recognise the need for information organisation and then design, implement and use the system. Only through effective information organisation can the accessibility of information and information sources in an SMME be guaranteed.

Chapter 5

Research design and methodology

5.1 Introduction

The literature survey provided data on information available in SMMEs, as well as information organisation methods that could be used in SMMEs. To determine the situation as it is experienced by SMMEs, a research instrument was constructed to determine the availability of information as well as to investigate the information organisation practices in SMMEs.

The planning of a research instrument must be carefully considered to ensure that data are being collected in a scientific way. If the instrument is biased the data will be unusable. The analysis of the data should discover all hidden aspects of the collected data. With thorough planning and careful execution, the research instrument can provide data that could contribute to possible changes in the way SMMEs collect, use and organise information.

5.2 Research methods

Two research methods were chosen to conduct this study. The first of these methods is the literature survey. It exposed theories, trends and possible practices on the subject of information organisation in SMMEs.

Secondly, an empirical study was conducted to determine whether the theories, trends and practices – identified during the literature survey – are actually implemented in SMMEs. The aim of the study (see par. 1.3) could best be reached through field research that created the possibility of qualitative analysis through observation and interviews. Qualitative analysis is used to identify similarities, differences, patterns and commonalities in the field that is studied (Babbie, ©1998:297-298). Using field research and qualitative analysis, a small population of SMMEs could be studied.

5.3 Research instruments

Research instruments have to be designed to conduct a qualitative analysis. For the purpose of this study, two research instruments were used. The first is interviews and the second is observation. The combination of these instruments provided the opportunity to utilise the advantages of two different research methods, and so increase data validity.

5.3.1 *Interviews*

Interviews permit personal contact with respondents and the possibility of further probing into answers given by the respondent or observations made by the interviewer (Bailey, ©1982: 12-14). This is also useful for clearing up misunderstandings.

The interviews were conducted using a structured questionnaire. The questionnaire consisted of a set of questions answered by the respondents (see par. 5.3.2). The questionnaire gave interviews a fixed and secure basis from which to begin, provided them with structure and direction, and decreased the possibility of digressing from the subject being investigated. The structured questionnaire simplified data analysis and made conclusion drawing overall less complicated (Powell, ©1985:90-91).

Additional questions were asked if answers were given or observations made that required further probing. The data collected through the additional questions were recorded and incorporated into the analysis of the interviews.

5.3.2 *Questionnaire design*

The first step in the design of the questionnaire was to determine the type of data needed to answer the research questions and to reach the objectives of the study (see Chapter 1). The questionnaire included questions on the size of the SMME, the type of information used in the SMME, how important the information is for survival and how the information is being organised. The development of the computer brought new possibilities regarding the availability of information to and information organisation in business. It was therefore decided to include questions on the usage of computers in the businesses.

The questionnaire consisted of four different parts:

1. Part one defined the businesses as micro, very small, small or medium enterprises. For this part, the definitions provided by the Small Business Act (Act 102 of

1996) were used (see par 2.2). The businesses were also grouped into different business sectors (see appendix A(i): questions 1-3).

2. Part two focused on the use of computers in the businesses. These questions ascertained how many computers are used in each business, as well as their purpose (see appendix A(i): questions 4-7).
3. Part three focused on the importance of different types of information and information resources in the SMMEs. To establish the importance of the information it was decided to use a 5-point scale of importance. The scale started at 1 (no importance) and ended at 5 (critical importance).

The rating of critical importance was derived from the concept of business-critical information (see par. 3.3). Business-critical information is that information without which the business cannot survive. Adding the concept of "critical" to describe rating five caused respondents to consider their answers more thoroughly.

To ensure the accuracy of the responses a "not applicable" (0) was added to the scale. This was necessary so that businesses were not forced to give an answer about aspects that are not necessarily used and could affect the accuracy of the data (see appendix A(i): questions 8-13).

4. Part four focused on the methods of information organisation used in the business. This part of the questionnaire concentrated on the sub-categories of information organisation, namely electronic and manual (see appendix A(i): questions 14-29).

The questions were mostly closed or structured questions and the respondents had to choose between varying alternatives (Powell, ©1985:93-95). Use was, however, made of open-ended or unstructured questions in part four of the questionnaire. The reason for this is that there are too many systems available for SMMEs to use and they could not all be listed.

The layout of the questionnaire was designed to start with easy, general questions. This helped to put the respondents at ease about the interview and gradually ease them into thinking about their business and its information.

The questions increased in difficulty and specificity so that the respondent had to think carefully about his or her answers. This ensured correct answers and a logical sequence that made the questionnaire easy to follow and understand.

The questionnaire was designed in Afrikaans (see appendix A(ii)). Most of the owner/manager of the SMMEs were Afrikaans therefore the interviews were conducted in Afrikaans using the questionnaire in the same language.

5.3.3 *Observation*

Observation enabled the hands-on investigation into the systems that are used in SMMEs. The respondents helped in the investigation through explanation and demonstration of the manual and electronic systems (such as folder structures).

Screen shots of electronic folder systems and photocopies or handwritten versions of manual systems were made. These were later, with the use of MS Word, changed into easily understandable hierarchical structures that were used for the further analysis of the concepts used by SMMEs to organise information (see appendices C-I; see Chapter 7).

5.4 Sample

The sample consists of SMMEs situated in four South African towns. The towns are:

Kuilsriver – Western Cape

Makhado (Louis Trichardt) – Limpopo Province

Stellenbosch – Western Cape

Upington – Northern Cape

These towns are situated in three different South African provinces and thus created a sample that is spread across the country. All of the four towns have well-developed SMME sectors.

A contact person in each of the four towns was used to compile the sample. These persons' knowledge of the towns was invaluable. They identified possible participants and their acquaintance with the owners/managers of the businesses made it easier to obtain cooperation.

Each of the contact persons received a letter (see appendix B) that explained the purpose of the study. This letter was used to approach SMMEs. The SMMEs that were willing to participate in the study were placed on a list for each area. The sample was then randomly chosen from these lists.

The first interviews were conducted in Upington (Northern Cape). The respondents in Kuilsriver, Stellenbosch and Makhado were chosen to closely resemble the Northern Cape respondents with regard to type of business and industry sector. This would have created a sample that could be used to compare SMMEs in different provinces. However, it was decided to analyse the data as a whole and not to focus on specific sectors or provinces. This was necessary because, firstly, the same number of SMMEs was not used in each province. If comparisons were made between provinces, the analysis would not have been as accurate. Secondly, a closer look at the industry sectors of the SMMEs in the sample revealed that some of the SMMEs in the same sectors differed too much to be placed in one category in order to make comparisons between sectors. Thirdly, the number of SMMEs used in the study was small and did not make the comparison between different sectors and provinces very viable. The objective of the study was to learn about the information organisation practices of SMMEs; therefore, an analysis of different sectors and provinces would have been interesting, but is not necessary to achieve the aim of the study. A more general analysis of the status and trends of information and information organisation practices in South African SMMEs was conducted.

5.5 Data collection

All appointments for interviews were made by telephone at least two days in advance. When the appointment was made a short description of the study was given. This gave the respondents time to think about their business and systems, which greatly increased the accuracy of the interviews.

The interviews were conducted at the SMMEs during a workday. This provided the opportunity for observation of the daily flow of information. The flow of information could possibly influence the availability and organisation of information. The interviews were conducted during June and July 2002, and the duration was between an hour and an hour and a half each.

Very few problems were experienced during the collection of data. Some of the respondents were reluctant to provide financial information needed for the classification of the business as micro, very small or small, but after confidentiality assurance was provided, they did provide this information.

Some respondents did not understand some of the concepts, such as online databases ("intydse databasisse") and even after clarification they still seemed unsure.

Some of the interviews were interrupted and proved difficult to continue because in some instances the rapport with the respondent had to be re-established. Although some difficulties were experienced the respondents were very helpful and some even realised the advantages of effective information organisation.

Chapter 6

Data analysis

6.1 Introduction

Through the analysis of collected data certain patterns can be detected, theories developed and possible recommendations made to improve the competitive advantage of SMMEs.

In this chapter the analysis of the collected data is presented. The chapter is structured according to the different sections discussed in Chapter 5 (see par. 5.3.2), with one exception. Part 4, the different methods of organising information (see par. 5.3.2), was subdivided into more specific sections. These sections are information resource and communication channels, manual and electronic information organisation and the responsibility of information organisation. The chapter follows the same structure as the survey. Each question is stated before its analysis.

6.2 Classification of SMMEs

6.2.1 Describing the SMME

Question 1: Describe the type of business (e.g. pharmacy, furniture store, lawyer, butchery)

In question one the respondents were asked to describe their type of business, for example: a pharmacy, furniture store or lawyer's firm. This was used to help with the identification of the industry sector that the business should be classified under (see question 3).

6.2.2 Classification according to size

*Question 2: Select a category in each of **A** and **B** that classifies the business.*

A	Number of employees	1 – 5	6 – 10	11 – 50	51 – 100	101 – 200
B	Annual turnover	≤ R0.3m.	R0.3m– R5m	R5m– R25m	R25m– R40m	

Question 2 of the survey asked participants to provide information necessary for classification of the SMME as either a micro, very small, small or medium enterprise. The question was formulated using the criteria provided by the government, namely number of employees and annual turnover (see par.2.2). Only eight of the SMMEs could actually be classified using both the criteria provided in the question. Either the other 16 businesses had more employees with a smaller annual turnover, or a larger annual turnover and fewer employees required to be classified as a certain type of SMME.

Information organisation is a human function that can be influenced more by the number of employees than the annual turnover or other financial criteria. It was therefore decided to use only the number of employees to classify the SMMEs in the sample. The result is a sample consisting of 10 (41%) micro enterprises, five (21%) very small enterprises and nine (38%) small enterprises.

Medium enterprises are not a part of the sample, although included in the concept SMMEs. These enterprises, according to the government classification, can have 51-200 employees with an annual turnover of R25-40 million (see par. 2.2). Medium enterprises, like large enterprises, have the funds and people available that could be made responsible for information organisation. It is also more likely that they can make use of available systems of information organisation than the smaller SMMEs. It was therefore decided to exclude these enterprises from the sample and focus on micro, very small and small enterprises.

The other criteria (see par.2.2) provided by Rogerson (1997) and Martins and Tustin (1999) were also not clearly recognisable in the sample SMMEs. Micro enterprises that are said to have no formalities, such as an accounting system, actually had complex systems that used to handle the financial data of the businesses. The five small enterprises included in the survey were managed by the owners of the specific businesses and were not in the hands of managers as defined by Martins and Tustin (1999:27).

A large geographical area was also covered in the study. Ten of the SMMEs are located in Makhado (Louis Trichardt), eight in Upington and three each in Kuilsriver and Stellenbosch.

Of the 10 SMMEs in Makhado (Louis Trichardt) six are micro enterprises, two are very small and two are small enterprises. Five of the SMMEs in Upington are small enterprises

and three are micro enterprises. In Kuilsriver and Stellenbosch three businesses are very small enterprises, two are small enterprises and one is a micro enterprise

6.2.3 Classification according to industry sector

Question 3: In which of the following industry sectors would you place the business?

Twenty different industry sectors were identified and the SMMEs in the study fell in 11 of the identified categories. The distribution of the SMMEs according to sector is given in table 6.1.

Of the 10 micro enterprises two were located in the building, construction and architecture sector. The others were located in the health and medical services, agriculture, forestry and fisheries, furniture and décor, education and training, computer and accessories and the food and drink sectors.

The five very small businesses were all located in different sectors: building, construction and architecture, services, arts, curios and gifts, furniture and décor and computer and accessories sectors.

Table 6.1: Total number of SMMEs in each industry sector

Sectors	Total SMMEs in sector
Building, construction and architecture	4
Services	2
Financial services	1
Health and medical services	1
Information and publishing	3
Art, curios and gifts	2
Agriculture, forestry and fisheries	2
Furniture and décor	3
Education and training	3
Computer and accessories	2
Food and drink	1

Of the nine small businesses one was located in each of the building, construction and architecture, financial services, agriculture, forestry and fisheries and the furniture and décor sectors. Two are located in the education and training sector, and three are located in the information and publishing sector.

Although the sample is small it covers a variety of industry sectors and types of SMMEs spread over a large geographical area. Some businesses however could be placed into more than one sector, because of diverse business practices that reach beyond the scope of a single sector. These businesses were placed within the sector that was the most dominant in the SMME.

6.3 The availability of computers in SMMEs

6.3.1 The use of computers in SMMEs

Question 4: Does the business use computers?

Twenty-one of the SMMEs that participated in the study use computers. The use of computers in the SMMEs when divided by size is as follows:

- Eight of the 10 (80%) micro enterprises use computers
- Four of the five (80%) very small enterprises use computers
- All nine (100%) of the small enterprises use computers

Only three do not make use of computers and all three cited personal preference as the reason. One business claimed that computers are not worth the trouble because the business has only two employees who know everything needed to know in the business. Everything is stored in manual systems. Both the other businesses cited personnel as the reason for not using computers. Personnel have been using the current systems for many years without problems, so there is no reason to change to computer systems that will only require more time, money and effort.

Ignorance of personnel was cited by some of the respondents as one of the causes of problems experienced, such as the lack of current information and organisation thereof in the SMMEs (see par. 4.3.5).

This ignorance also exists with respect to the benefits that computers can provide to an SMME. Some of the owners/managers responded with "Why would I want to use a computer?" The possibility of managing information and increasing its availability through the use of a computer had not yet been appreciated by them. Owners/managers feel that a very small business with one or two personnel does not need a computer, but none have given thought to what may happen if an employee is not at work and someone else has to take over their duties for a short time or even permanently.

6.3.2 The number of computers used in SMMEs

Question 5: How many computers are used by the business?

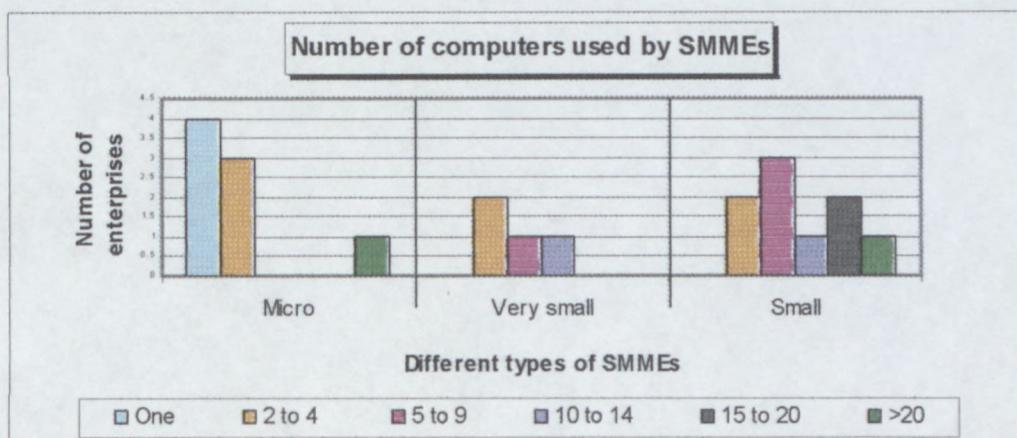


Figure 6.1: Number of computers used in different sized SMMEs

Figure 6.1 show that the micro enterprises mostly make use of between one and four computers. This is most probably because these enterprises only have between one and five staff members and more computers are therefore not necessary. Many of the owners/managers of micro businesses use their home computer to store business data. This can also explain why micro businesses mostly have only one computer. The one micro enterprise is a computer training facility and therefore has more than 20 computers, but only two of these computers are used by the staff for administration purposes.

Very small enterprises are more likely to have between two and 14 computers. These enterprises have six to ten staff members, which could mean that more than one or two staff members have to use a computer. Small enterprises have between five and 20

computers. There can also be between 11 and 50 staff members working in a small business, each with their own responsibilities (see fig. 6.1).

It is clear, however, that there is a slight increase in the number of computers used by a small enterprise as opposed to a micro enterprise. Small enterprises are likely to use more computers in the business than micro or very small enterprises.

6.3.3 Presence of computer connections in SMMEs

Question 6: Are the computers connected in any of the following ways?

Question 6 was used to determine whether — if there is more than one computer in the business — the computers are connected in any way. The different connections that were tested are LAN (Local Area Network), WAN (Wide Area Network) and Intranet. The availability of an Internet connection was also tested. The responses to this question are displayed in figure 6.2.

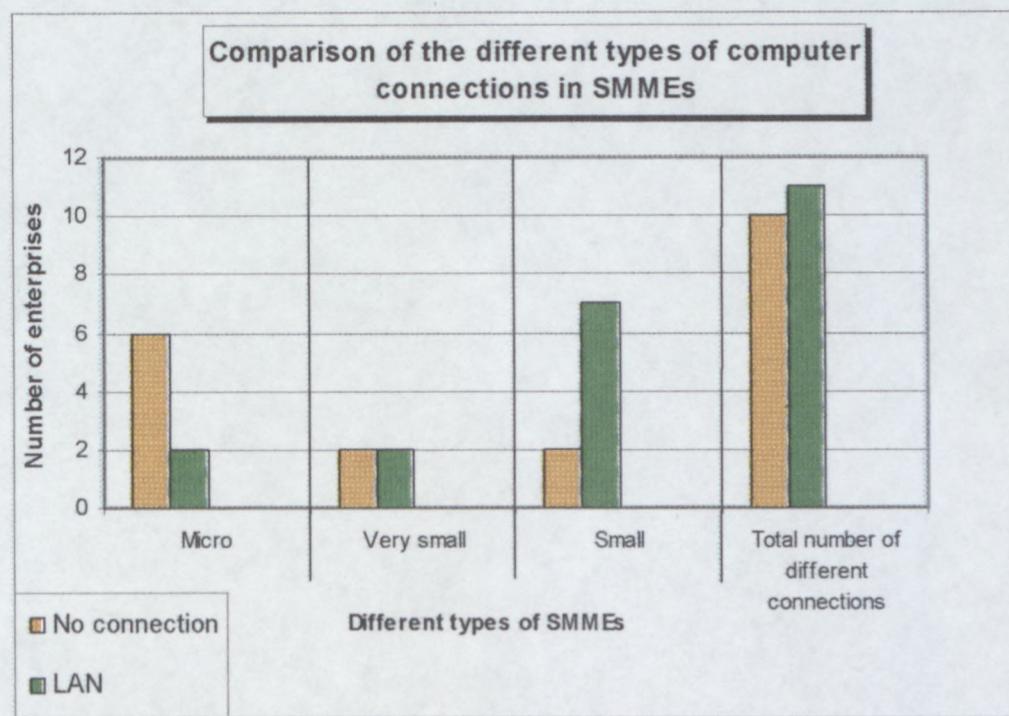


Figure 6.2: Different types of computer connections found in SMMEs

Most of the micro enterprises have only one computer so no connections are possible. One of the micro enterprises gave as reason for no connection between computers that each handles very different data and only one person works with the computers. This

means that it is not necessary to share data between the computers and employees, so it is not necessary for the business to have them connected.

The very small enterprises were divided between two that had LANs and two that did not. There were more small enterprises that had LAN connections than did not. None of the SMMEs had a WAN or Intranet.

A last type of connection investigated was the presence of an Internet connection because of its importance in the provision of external information. Of the 21 SMMEs that make use of computers, 19 have or make use of an Internet connection. Six of the micro enterprises, four of the very small enterprises and nine of the small enterprises have Internet connections. The two enterprises that do not make use of the Internet are located in the micro enterprise sector.

These figures show that a small business is more likely to have a connection between computers; this is usually in the form of a LAN. Small businesses have more computers available to the business and more employees between whom information must be shared. Connecting the computers in a small business will not only increase the possibility of sharing information between employees, but also make the process of sharing easier through general storage facilities, such as a standard folder structure, and through communication technologies such as email.

Other types of connections namely WAN (Wide Area Network) and Intranet did not get any response from the businesses. Most of the owners/managers are not sure what these types of connections are and most describe their systems as a LAN.

The larger types of SMMEs also showed a slightly higher availability of Internet connections. The manager of one of the two enterprises that have no Internet connection at the business said that he uses his home Internet connection to research queries from clients in order to deliver better service. This manager realises the possible benefits of using the Internet, but does not have the necessary access to retrieve information on the spot when it is needed.

The results regarding the Internet connections in figure 6.2 differ from the findings of Shokane (2003:59) in Acornhoek. Most of the small and medium business in this study did not make use of the Internet. (see par. 4.2.3.2). A possible reason for this difference

is that Shokane's study was conducted in a rural area that lack the infrastructure needed to use this technology. The sample of this study, however, consisted of SMMEs in more urban areas where computers and the Internet are regularly used.

6.3.4 Different applications done by computers in SMMEs

*Question 7: How important are **computers** for the following practices in the business?*

Ten possible uses of computers in business were identified, and the importance of these different uses was established in the sample of SMMEs. The results of this question is detailed in table 6.2. The uses that were identified in question 7 are:

- Creation and storage of business data
- Analysis of business data
- Document creation and storage
- Information searches
- Communication
- Product design/development
- Service delivery
- Project management
- Electronic banking
- E-commerce

These uses of computers were rated according to their importance for the business using the importance rating scale (see par.5.3.2).

Table 6.2: The importance of different uses of computers in SMMEs

Different types of uses	Average importance rating
Creation/storage of business data	4.9
Electronic banking	4.4
Document creation/storage	4.4
Data analysis	3.9
Product design/development	3.7
Information searches	3.7
Service delivery	3.5
Communication	3.4
E-commerce	2.8
Project management	2.3

According to the SMMEs in the sample the most important use of computers is the creation and storage of business data (see table 6.2). This implies that there should be a definite need for the proper organisation of electronic data and documents in SMME. Document creation and storage is part of everyday business and is easily accomplished with packages such as MSOffice. Most SMMEs implement computers specifically for the purpose of creating and storing firstly, business data, and secondly, documents. Many of the owners using computers started with a home computer and realised the possible benefits a computer could have for his business. Owners/managers also see documents as a part of business data; for some there is no difference between these two concepts. This could also explain the high rating of the creation and storage of business data.

Electronic banking's high rating is because it is the newest application of computers in business (see table 6.2). Electronic banking can be very important to SMMEs where the owner/manager does not have the time to go to the bank and stand in long queues. It can easily be done from anywhere and at any time, at the owner/manager's own convenience.

Data analysis, product design/development, information searches, information delivery and communication all received average ratings of between 3.4 and 3.9 (see table 6.2). These capabilities of computers are not used often enough in SMMEs to warrant higher ratings. Data analysis and product design/development are not done by all SMMEs, so these capabilities are only important to a few enterprises.

Information searches are only performed when necessary, which means that they are only done when nobody in the business has an answer to a problem. This is in contrast to the data on available Internet connections in SMMEs (see par. 6.3.3). If this data are taken into account it would seem that SMMEs — although nearly all have Internet connections available to conduct searches — do not use the facility for this purpose. This could mean that the Internet connection is mainly used for other purposes, such as electronic banking, or that the facility is only used to search when necessary because of possible costs involved.

Many of the SMMEs also do not know how to use these capabilities of computers. For example, data analysis in MS Excel could be daunting for anyone new to computer use. Computers are mainly implemented without providing staff with the necessary training, so

some of the possible uses of computers are not realised because nobody in the business has discovered them.

Although most of the SMMEs have email it is still not the preferred method of communication. Many of the SMMEs still rely on face-to-face communication because their clients do not have computers. E-commerce is another facility that is currently not very important in SMMEs (see table 6.2). Most SMME owners/managers do not understand this concept, and with a local based market that is enough for most SMMEs, they do not see the need for e-commerce. Many see it as an unnecessary additional expenditure of funds.

Project management is the least important use of a computer with an average rating of only 2.8 (see table 6.2). Two of the SMMEs do not use their computers for project management, but have manual systems that make use of white boards on which all the projects can be tracked. Project management was mainly unimportant because the sample included few SMMEs that undertook large projects that required management.

6.4 Importance of information for the business

6.4.1 General importance of information

*Question 8: How important is **information** in general for the business?*

Question 8 defined information as any data that have been captured, packaged, stored and used by the SMME. The SMMEs in the sample were asked to take this definition into account and rate the general importance of information for their business on the five-point scale.

Twenty-one (88%) of the SMMEs said that information is of critical importance for their business; therefore, 88% of the SMMEs in the sample cannot function without information. Two (8%) of the SMMEs said that information was very important and only one (4%) enterprise said that information is of average importance. This confirms statements in the literature to the effect that information is needed on a daily basis to ensure the survival of the SMME (see par.3.2).

6.4.2 Importance of information for specific business processes

Question 9: How important is information for the execution of each of the following business processes?

In table 6.3 the results of the importance of information for the successful execution of different business processes are given. These business processes and the information within each were identified in chapter 3.

Information for financial management was rated the most important. Many of the SMMEs cited the reason for the importance of financial management as tax related issues, and without proper financial management the business would not be able to survive.

Table 6.3: The importance of information in different business processes

<i>Business processes</i>	<i>Average rating of importance</i>
Financial management	4.7
Production/service delivery	4.3
Marketing and sales	3.9
Purchasing	3.8
Strategic management	3.3
Personnel management	3.1

Information for production or service delivery received an average rating of 4.3, making it the second most important type of information (see table 6.3). A business's main purpose is the delivery of a service or the production of goods. Therefore for an SMME that is serious about its business and reaching the goal of business success it is necessary for this process to have a high rating.

Marketing and sales and purchasing information were third and fourth in the importance rating with average ratings of 3.9 and 3.8 respectively. Most of the SMMEs are established in their communities and utilise marketing strategies that they already have. For many of these enterprises it is unimportant to revise their marketing strategies for a local market that seldom changes.

Strategic management information received a 3.3 rating, making it of average importance for SMMEs. Strategic management is a concept that is foreign to some SMME owners/managers. The reason for this is that they see their markets as stable and therefore no need to plan strategically in order to adapt to changes in the market and economy

(see par.3.4.1). Most of the SMMEs' owners/managers are quite satisfied just to make it through another fiscal year.

The business process where information was of the least importance for the sample SMMEs is personnel management (see table 6.3). Because many of the businesses have very few staff members, perhaps one or two, and these are usually family members, information for personnel management is not of a critical nature. Larger enterprises with more employees find information about labour legislation, performance evaluation and other personnel management information of a very important nature. An average rating, however, of 3.1 still makes this process of average importance for businesses and therefore a business process that cannot be disregarded as not needing information (see table 6.5).

The result of the importance rating of information for the execution of business processes supports the statement made in par. 3.4, that, in order for a process to function at its best, it needs information. The importance of the process itself depends on the type and size of SMME and this can affect the importance of information needed to execute certain processes. The question is however whether SMMEs know which information is needed for the optimal functioning of the processes.

6.4.3 *The external and internal environments*

6.4.3.1 Importance of the internal and external environment

Question 10: How important is information from each of these environments for the business?

All of the business processes receive information from two different information environments, namely the external and the internal environment (see par.3.3). Question 10 asked the respondents to state how important, in general, information from these two environments is to the business.

The internal environment received an average rating of 4.5 and the external environment an average rating of 4.3. This shows that information from both of these environments is very important to SMMEs, with only a 0.2 difference in their importance.

Information from the internal environment is, however, slightly more important than information from the external environment. This is because SMMEs see information from the internal environment as critical to their survival, and most information from the external environment comprises rules and regulations that should be followed or taken into account, but not having this information would not necessarily have a negative impact on the business or change the status quo. This could mean, however, that owners/managers miss opportunities to improve their business.

The high rating of the external environment could possibly be attributed to the importance of information about suppliers. Supplier information is seen as external environment information and received a high rating in question 11 (see table 6.4). This could have led to the high importance rating of information from the external environment by the SMMEs.

6.4.3.2 Information about the internal and external environment

*Question 11: Indicate how important **information on** each of the following aspects of the internal or external environments is for the business*

Question 11 was used to investigate the importance of specific aspects of the internal and external environment. Twenty-six (see appendix A(i)) aspects were identified of which 12 could be seen as aspects of the external environment (see table 6.4) and 14 as aspects of the internal environment (see table 6.5).

Table 6.4: Importance of information about different aspects of the external environment

Aspects of the environment	Average rating of importance
Special needs	4.4
Customers/potential customers	4.3
Suppliers	4.3
Technology	4.1
Marketing strategies	4.1
Competition	4.0
Laws and regulations	3.7
Economy	3.5
Planning strategically	3.3
Social and cultural aspects	2.9
Political developments	2.4
Ecological aspects	2.2

Of the elements from the external environment special needs of customers received the highest average rating of 4.4. Customers/potential customers and suppliers both received second highest average ratings of 4.3 (see table 6.5). This means that any information regarding the customer — whether special needs, orders, accounts or biographical data — is very important, which would make a customer relationship management system an important part of the business.

Technology and marketing strategies received the third highest rating (see table 6.4). Some of the SMMEs said that information about new technologies that could make the business more efficient or certain tasks easier is very important. The biggest complaint received about technology is that it can be very expensive to purchase and to get the licenses required to use it. In SMMEs there is usually no separate marketing division – the owner/manager or one of the staff is responsible for marketing and most do not have any training in the field of marketing. Therefore information on how to market is very important for SMMEs. This is concurrent with the rating marketing as a process received in question 8 (see par.6.4.2).

It is very important for SMMEs to have information about competition, such as who they are, their products and price lists. For SMMEs large and small companies are competition, and knowing everything possible about them could mean the difference between success and failure. Laws and government policies received an average rating, and with new laws for businesses, such as labour laws, business cannot afford not to have the information available. Economic information (growth, inflation, markets) received an average rating of 3.5. Most SMMEs found information about the economy interesting, but many do not see its necessity for their survival.

The aspects of the external environment that are regarded as least important are social and cultural aspects, political developments and ecological aspects (see table 6.4). These aspects also received the lowest rating when compared to the results of the internal environment. The low rating of these elements coincides with the low rating of information for strategic management (table 6.3), because these elements are the information used for strategic planning. The owners/managers of the SMMEs in the sample did not see how information regarding these aspects could have an impact on their businesses.

Aspects of the external environment are not as important as aspects of the internal environment. This could be because of time constraints in finding information from outside the

SMME, possible costs involved and the sheer volume of information all having a negative impact on the use of information about aspects of the external environment. The owner/manager of an SMME does not usually have the time to search for necessary information. If information is not known or found within a reasonable time the owner/manager of an SMME does not see it as important.

Table 6.5: Importance of information about different aspects of the internal environment

Aspects of the environment	Average rating of importance
Debtors	4.8
Creditors	4.8
Sale figures	4.2
Production costs	4.0
Product design	4.0
Employment	3.9
Product information	3.8
Activities of sales reps	3.8
Production figures	3.7
Personnel training	3.5
Stock levels	3.5
Personnel knowledge and training	3.2
Job description	3.2
Performance evaluation	3.0

The most important aspects of the internal environment about which information was needed are debtors and creditors, especially with respect to who they are, how much is owed and when the amounts must be paid. Both of these aspects received an average rating of 4.8 making them highly important (see table 6.5). For most SMMEs it is of a critical nature to have this information. This is in agreement with the statistics that show financial management as the most important business process about which information is needed (see par. 6.4.2). Financial soundness and stability is the most important aspect of any business, including SMMEs. If a business is financially sound a lot more can be done and its focus may shift to other areas. Information on how to become and stay financially sound is critical.

Information about sales figures of own products, such as amount of items and their value, received the second highest rating (see table 6.5). Sales figures are closely connected with financial soundness and therefore receive a higher rating. SMMEs need to know if

products are selling or not so that the product can either be removed or a new market strategy be developed.

The conclusion drawn from par 6.4.3.1, that information from the internal environment is slightly more important than information from the external environment, is again seen in the results of the individual aspects of each of these environments. Elements from the internal environment all received at least an average rating (3) or higher. This underlines the importance of internal information in SMMEs.

6.5 Importance of different information resources and communication channels

Information can be found in a variety of formats and can be delivered through an even wider variety of communication channels and information resources. Each of these differs in importance depending on the type of SMME, its capabilities (for example the use of computers and skills of personnel) and the specific information needs of the business.

6.5.1 *Different types of formats in which information can be received*

Question 12: Information may appear in many formats. How important is each of the following formats for the business?

Question 12 identified three different types of information formats, namely hard copies, electronic format and oral format. The hard copy and the electronic format received average ratings of 4.2. Oral format received an average rating of 3.6. In the SMMEs sample it is clear that hard copy format and electronic format are the most important formats of information for the SMME.

Electronic format is not the *most* important because some of the SMMEs still do not use computers. Even those that do use computers cannot place too much importance on electronic format because some of the other businesses do not use computers, so all correspondence and sharing of information must be in printed format. Most SMMEs still do not trust the computer and keep printed copies of all information. Some information is required by law to be available, especially financial information, and SMMEs find it easier to keep this in printed format. This meant that hard copy received a high average rating.

Keeping information in both electronic and printed format duplicates the information and increases the volume of information that must be organised. Methods of making printed format information available in digital form should be investigated. Placing information on CD-ROM could decrease the storage space needed for information in printed format and make the information more accessible.

6.5.2 *The importance of different information resources and communication channels for the delivery of information*

Question 13: All information used is obtained through certain channels of communication and from certain information sources. How important is each of the following as channels and sources of information for the business?

Table 6.6: The importance of some communication channels and information resources

Communication channels/ information resources	Average importance rating
Talking to personnel, clients and suppliers	4.4
Telephone calls	4.3
Faxes	4.0
Product catalogues	3.9
E-mail	3.7
Internet	3.4
Journals, newspapers and letters	3.3
Meetings	3.2
Books	2.9
Conferences, workshops and seminars	2.8
Reports	2.7
Government publications	2.6
Online databases	2.5
State departments	2.5
CD-Rom databases	2.5
Radio and television	2.5
Patents and standards	2.3
Trade associations	2.3

Table 6.6 shows the results for the importance of different types of communication channels and information resources that can be used to acquire and communicate information.

Person to person communication, such as talking to clients and telephone calls, is the preferred information channel of SMMEs (see table 6.6). This is in conflict with the importance rating of the different formats where the oral format received the lowest rating (see par 6.5.1). These results, however, supports the Shokane's findings that most owner/managers of small and medium-sized businesses prefer to acquire information through discussions with customers, suppliers, friends and family (see par. 4.2.3.2). Owners/managers find person-to-person communication more effective and reliable, because it delivers information when needed from a trustworthy source.

A possible reason for this discrepancy in the rating is that individually certain types of oral information are of critical importance to the respondents, but when all the oral formats, as a whole, are weighed against the importance of the printed and electronic formats, collectively they are not as important. A problem with person-to-person communication is that it is not so easily stored for later retrieval. This could have an effect on the overall importance of oral information.

The importance of person-to-person communication could possibly be related to the high importance rating of information about customers (see table 6.4) and the overall rating of the aspects of the internal environment (see table 6.5). Most of the information resources and communication channels that received an above average rating (3.2-4.4) carry information necessary for high quality service delivery and production (see par. 6.4.2).

Resources and channels that deliver up to date information such as email, the Internet and telephone calls received higher ratings than resources and channels that deliver important older information such as books, reports and conferences (see table 6.6). This means that owners/managers of SMMEs desire up to date information when it is required.

Table 6.6 shows that sophisticated sources such as online databases and CD-ROM databases have low average ratings of 2.5. Most respondents did not know what online databases were, which shows that they are not regarded as important to SMMEs as information resources. CD-ROM databases can be very expensive and do not necessarily cover the subject area of interest to an SMME. CD-ROM databases also take a while to become available which makes the information they have slightly outdated and not of too much use when decisions have to be taken or problems must be solved with recent accurate information.

The other resources that received low ratings also come from the external environment and usually provide information about the aspects of the external environment, for example state departments, radio, TV (see table 6.6). The low rating of these resources could be attributed to the fact that information about aspects of the external environment is not seen as very important (see table 6.4), and therefore the resources and channels that carry information regarding these aspects are not important either.

Trusted information resources and communication channels — faxes, product catalogues, e-mail — are used most often. Most of these channels and resources deliver current information. This means information that is needed now is only a phone call or e-mail away. The information is current and when it has served its purpose it can be forgotten or discarded. This is of course not an ideal situation, but SMME owners/managers do not want information that will take a long time to absorb or must be maintained because this takes time and space.

6.6 Different aspects of the organisation of information in SMMEs

6.6.1 *Integrated systems for electronic information*

*Question 14: How important is it for all the **electronic information** obtained from the different internal and external sources and channels to be **integrated** into one information system?*

In question 14 SMMEs were asked to rate the importance of having one integrated system for electronic information in the SMME. The result of this question is shown in figure 6.3. Such a system will store all the information used by the SMME and also provide one point of access to the information. Only six of the SMMEs said that such a system is of critical importance. Two SMMEs said it is somewhat important and three rated it of average importance (see fig. 6.3). These SMMEs said that their information is so diverse that, although one system would be beneficial, it is not a possibility.

Importance of one integrated system for electronic information

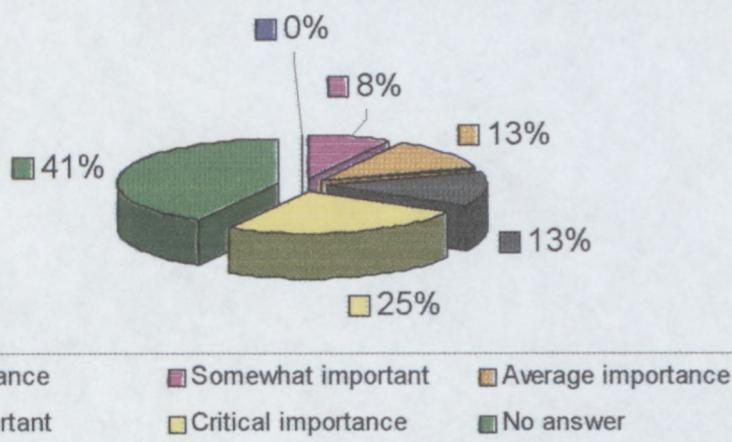


Figure 6.3: The importance of one integrated system for electronic information

Most of the SMMEs are used to their information being spread across different systems. The changes needed to implement an integrated system can cause apprehension with owners/managers who do not like change. The problem with information spread across systems is that it makes analysis of the information for the purpose of decision-making very difficult. Before a decision can be made all the information on the subject must be reviewed, but if it is spread across different systems it could take too long to find the necessary information or some information could be missed. The possibility of an integrated system, maybe for micro or very small enterprises where information is not so diverse, might be a possibility for further development.

6.6.2 *Importance of information organisation*

Question 15: How important is it for the execution of business processes that the business's information (electronic and printed) be organised?

Question 16: How well is the business's information currently organised?

In question 15 the SMMEs were asked to rate the importance of information organisation in general. All 24 SMMEs rated information organisation of critical importance (5 on the scale). However, when asked to rate their current level of information organisation in question 16 only four reported it as very good and 14 good (see fig. 6.4). It is possible

that the respondents were trying to satisfy the need of the interviewer by providing the ideal answer.

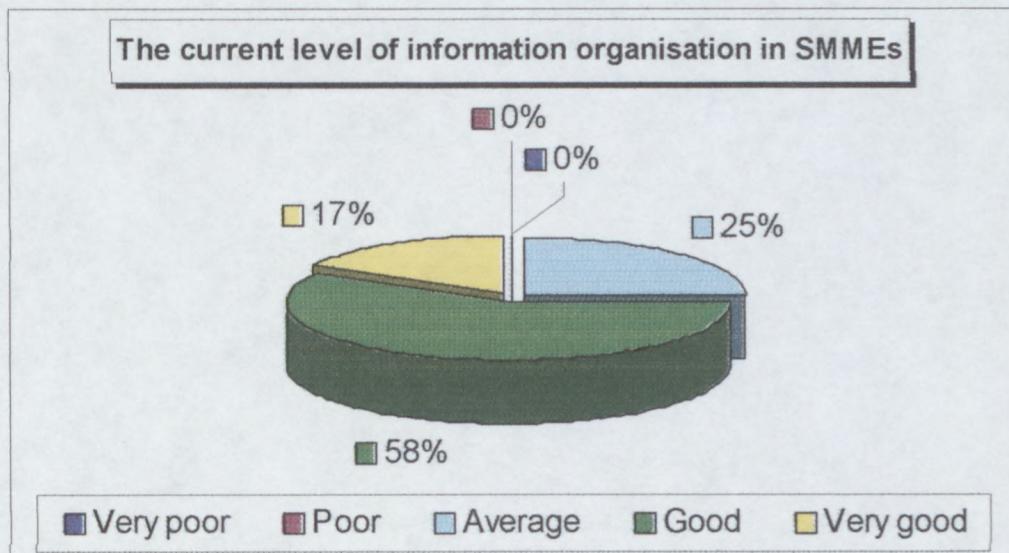


Figure 6.4: Current level of information organisation in SMMEs

The six SMMEs that rated their level of information organisation as average said that the reason for this is that personnel do not follow procedures and that there is not enough time to organise the information properly. Some of the respondents said that there is always room for improvement, but further investigation revealed that SMMEs do not have the expertise or the support from literature to organise information effectively (see par. 4.3.5). This became even clearer when the different systems used to organise computer files (see tables 6.7 and 6.8), e-mail messages (see fig 6.5), e-mail attachments (see fig. 6.6), URLs and Internet downloads were investigated (see par. 6.6.6.1).

6.6.3 Electronic programmes/systems used in SMMEs

Question 18: In the following table, provide information on the computer programmes and systems used to store, retrieve and analyse information in the business.

SMMEs were asked to identify all the electronic programmes and systems they use in order to establish if there is any specific software that can be recommended to all SMMEs and what information can be stored in different systems.

The SMMEs were asked to rate the effectiveness of each programme that is used in the business. A different five-point scale was provided for the effectiveness rating. The scale started at 1 (not at all) and ended at 5 (very good) (see appendix A(i)).

The programmes that were identified were divided into seven different types of systems covering different aspects of business. These seven categories are financial programmes, graphical programmes, design programmes, communication systems, administration programmes and multi-tasking programmes.

Eighteen of the SMMEs use financial programmes and 19 different programmes were identified. Table 6.7 contains a list of all the financial programmes and the average rating of effectiveness that they receive.

Table 6.7: Financial programmes used in SMMEs

Programme name	Number of SMMEs	Average rating of the programme
IQ	2	5
Ulti-sales	2	5
Pastel Payroll	2	3.5
Pastel	10	4.4
Absa matrix	1	5
Actecs	1	5
Convey plan	1	5
E-properties	1	5
Finrec	1	5
Microfin	1	5
MS Money	1	5
Payslip	1	5
Procrec	1	5
Quattro Pro	1	5
Quickbooks	1	5
Datapak	1	4
GreatSoft	1	4
Cash registers	1	0
Scale	1	0

Some of the SMMEs make use of different programmes because of their diverse tasks; take as example the law firm. The most widely used financial programme is Pastel (10) and those that make use of this programme gave it an average rating of 4.4 which means it is highly effective in performing its tasks.

A lot of different systems were identified that have been specifically designed for a certain type of business, for example Microfin that was developed for schools. Other financial systems are created for specific business tasks, such as Payslip for salaries. Apart from financial information these systems also store client information and even some personnel information.

Graphical programmes were found in eight of the 24 SMMEs. These programmes, just like the design programmes are very specific to certain businesses developing certain specialised products. The graphical programme most used is Corel Draw. Seven of the SMMEs in the sample made use of this programme and it received an average rating of 4.1. Only five of the respondents make use of design programmes like Pagemaker and Frontpage and these are usually used to store product information.

Outlook Express is the most commonly used communication system and was found in 18 of the respondents. It seems that the respondents use this system because they do not know about others or they do not know how to use the system effectively. MS Outlook is also the communication system distributed with MS Office, which is the most commonly used software package in the SMMEs.

Administration programmes are only used by four respondents and include general programmes like MS Project that may be used by anyone to manage projects, but also programmes specifically designed for certain types of business, for example Microscope that was designed for school administration.

Programmes that can be used to complete diverse tasks and handle diverse types of information were classified under multi-tasking programmes, for example Mescal, MS Word and MS Office. Of these programmes MS Word (13) and MS Excel (11) are the most widely used. MS Excel is mainly used to store financial data and MS Word is used to store administrative information. The users of these systems do not find them highly effective and only rated them 2.8 and 3.2 respectively.

Apart from folder structures and manual systems, information is also stored in specific programmes and systems, such as Largo Tint 2000 and Microscope. Therefore, different versions of information are created in different places. This could cause problems when the most current information must be found. Using more than one system disperses the

information across systems and makes it difficult to retrieve when it is needed, although none of the SMMEs complained that they experience such problems using different systems. SMMEs have been using different systems that store the same or related information in different places for many years and do not see the necessity of using only one system. This could explain why only six of the owners/managers rated an integrated information organisation system as critical (see par.6.6.1).

6.6.4 Organisation of computer files using a folder structure

Question 19: How are the computer folders created / received by the above-mentioned systems stored?

Table 6.8 show the different applications of folder structures that can be used in SMMEs to organise electronic information. Computer files are defined in the questionnaire as any electronic files created using a computer, and include for example MS Word files (.doc), MS Excel files (.xls) and also files created in specific programmes such as Pastel, but do not include *Internet resources* and *e-mail messages*.

Table 6.8: Methods used by SMMEs to store computer files

Storage method	Number of SMMEs
No method used	5
Folders (central server)	8
Folders (individual computers)	9
Folders (specific programmes)	5
One folder	4
Sub-folder system	12

Two of the 21 businesses that use computers do not make use of any method to store computer files.

An analysis of the folder structures showed that folders for financial and accounting data or documents are widely used. Folders named bank, invoices, quotes, expenditures, income, creditors and bills are used by many of the respondents (see appendices C, D, F, G and I). The auditor firm used folders with the names of the financial programmes, for example Pastel5. Within each of these folders client folders, using the client number, were created (see appendix E). Most of the SMMEs organise their financial information according to year, for example:

- Invoices
 - 2001
 - 2002

(see appendix I)

The graphical design company organises its financial information using as folder name the type of business, for example:

- Quotes
- Businesses
 - Farmers
 - Garages

(see appendix D)

None of the enterprises organise all their financial information in one folder with subfolders. For example:

- Finances
 - Quotes
 - Orders
 - Accounts

(see appendix I)

This means that financial information is mixed with other information and could be difficult to find. An advantage, however, is that all of the enterprises use alphabetical systems when organising the folders. If the person therefore knows that the folder's name is for example Quotes and knows he or she can look under Q he or she will find the folder.

A disadvantage of alphabetical arrangement is that the order of the folders is not systematic, for example the general folder, which one would expect to find at the beginning of a series of folders, would be under G. Sometimes choosing the word that starts with a specific letter to keep the order of the folders is not enough, because other words also starting with the same letter could cause folders to move.

One of the enterprises organises its information according to the programmes used to create the information. Within each of these folders, folders according to the type of business are created to organise the information (see appendix D). These folders, however, are still alphabetically organised and a person must know the type of business he or she is working with to find the right information. A new employee could have trouble using this system in the beginning.

Two of the SMMEs have an administration folder (see appendices C and I). These folders are used for the organisation of any type of information, but mostly financial, templates and forms. The architect also places his contracts and agreements in this folder (see appendix C).

The template folders that were created are used to organise templates for the creation of forms, letters, faxes, logos, letterheads and certificates (see appendices C, G and I). Most of the SMMEs do not have a specific folder containing all the templates. They have main folders for such information. Most of these SMMEs use these folders not only to organise templates for writing letters, but also include letters that were written to clients and suppliers (see appendices D and H). The computer sales company and Internet café has a "templates" folder and a "letters" folder (see appendix G). The templates folder is used for the organisation of all forms that are used to create different types of correspondence. The letters folder is used for the organisation of written letters.

Most of the SMMEs create folders that are used for the organisation of information specific to the business. The education and training centre created a folder where all course material is organised (see appendix H). The different types of material are defined, for example "boeke" (books), "notas" (notes) and "vraestelle" (examination papers). In each of these folders, a folder for each level of training or education was created, for example Level 1, Level 2 and Level 3 (see appendix H). Different folders for the languages in which course material is available, was also created. All of these folders are available on the server so that personnel can access them when needed.

Many of the folders that are created are given names that include terms only used in that specific business. Examples of this include KPR, EDUMED (see appendix H) and GRAS, PALE (see appendix I). Some of these names are easy to understand, but some are acronyms or abbreviations that will not necessarily be understood by a new employee. This

could make it difficult for personnel to work with the system and could influence the organisation of information. If terms are created by one person, and only that person uses those terms, this may cause problems when other personnel need to organise information and do not know what the names stand for.

When investigating these folder structures it was found that a lot of repetition of the same folders in different places occurred. The architect has two project folders (see appendix C). This creates two different places where the same information can be placed. This could cause confusion and uncertainty on where to store (and indeed retrieve) the information.

A poorly designed folder structure, together with more than one system for organisation results in information getting lost in the system, because no one knows where it was stored. This means that precious time must be used to find or create it again. It should be considered to use an organised folder structure, for example through the use of subject headings, thesauri or classification notations; this will result in the information being consistently stored and easily retrievable (see par. 4.3.4).

6.6.5 Storage of e-mail messages

Question 20: How are e-mail messages stored?

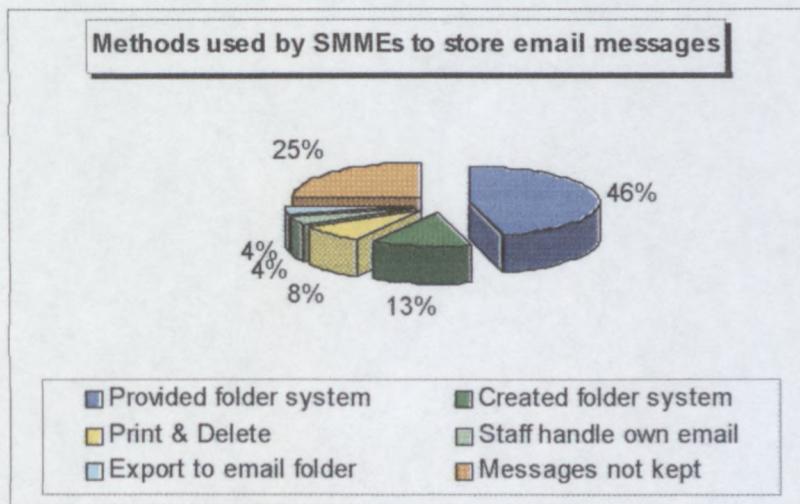


Figure 6.5: Storage methods for e-mail messages

Figure 6.5 shows the results for the different methods used in SMMEs to store e-mail messages. Most (11) of the SMMEs use the folders provided by the mail system, for ex-

ample sent items, inbox and deleted items to store e-mail messages. Only three created their own folder system and eight do not keep their e-mails (see fig. 6.5). Although the folders provided by the system can be used this usually results in long lists of e-mails that are time consuming to browse through in order to find the required message. Using the inbox to organise e-mail messages can cause it to become too full increasing the difficulty of finding a specific e-mail message. This could lead to the loss of information.

6.6.6 Storage of e-mail attachments

Question 21: How are e-mail attachments stored?

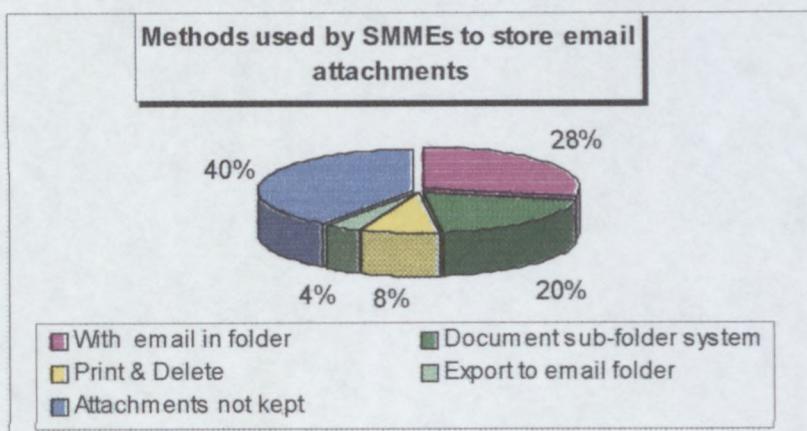


Figure 6.6: Storage methods for e-mail attachments

Most of the SMMEs do not keep attachments — ten of the businesses in the sample discard attachments after reading them (see fig. 6.6). Seven of the SMMEs keep the attachment with the email in the folder of the system and only five add it to the document sub folder system.

Discarding or keeping attachments with emails in a general folder can lead to the loss of important information that can only be found with a lot of time consuming searching through all the attachments or contacting the person that originally sent it.

6.6.7 The storage of URLs and Internet downloads

Question 22: How are Internet sources' addresses (URLs) stored?

Question 23: How are folders downloaded from the Internet stored?

Eleven of the SMMEs store their URLs without any subdivision in the favourites or bookmarks folder and only three of the respondents created folders to organise the URLs.

Internet downloads are either not kept or they are organised within the document folder subsystem. Three of the respondents make use of a download-folder and two only print downloads.

In a business where there is no time to be permanently searching for the most usable website that will deliver services or products it should be of interest to keep URLs and Internet downloads. This makes it easier to find the information again and the changing nature of the Internet may mean that the information may not be there the following day. Most of the respondents were not aware that URLs can be stored in a folder or even that they can create folders for specific subjects or areas of interest.

6.6.8 *Methods used to search for stored computer files*

Question 24: Which of the following methods / aids are used to find specific computer files?

Once information has been stored within a system the person should be able to retrieve it again (see par. 4.3.2). Computer systems have various methods that can be used to search for computer files. The SMMEs in the sample mainly used browsing through folders (14) by means of Windows Explorer or My Computer. If this method should fail the Windows search facility (12) is used (see fig. 6.7).

Browsing through folders is a tedious process, especially if one has a lot of folders. This method is only useful if the person has an idea where the information might be. The Windows search facility is more effective but the searcher must know a part of the file-name or the extension in order to find the information.

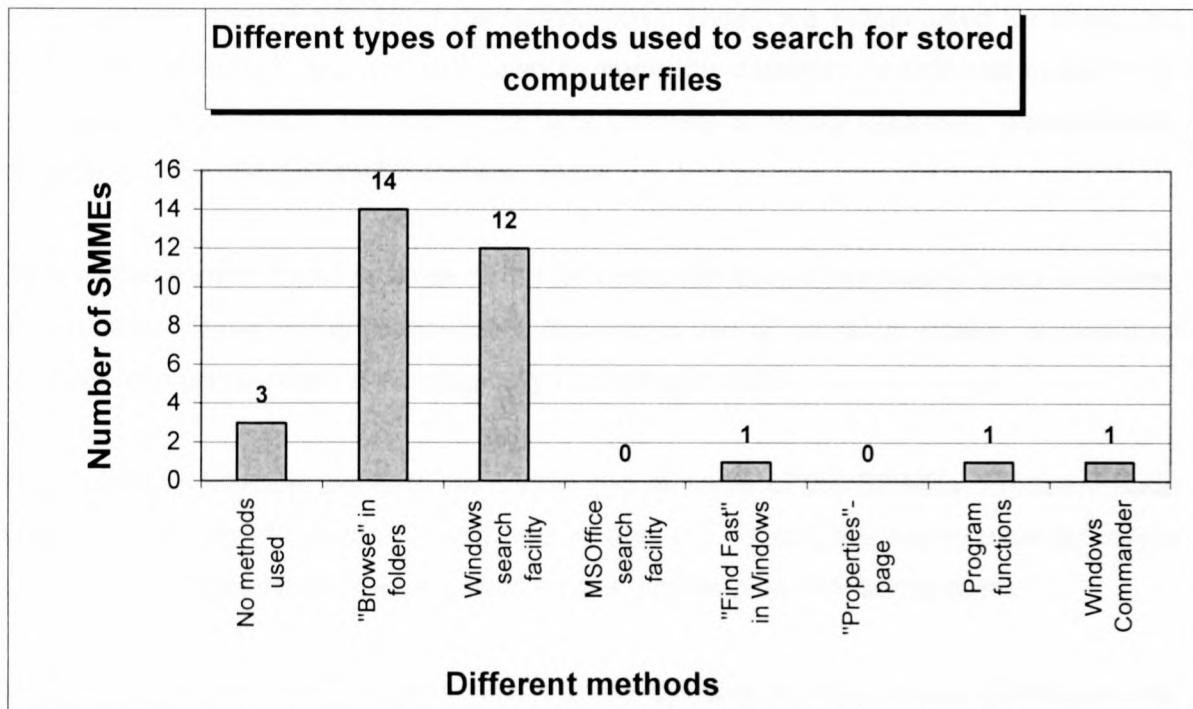


Fig. 6.7: Methods used to search for stored computer files

Making use of subject headings or notation to name folders and files would make browsing easier. For such a system to be effective it needs to be applied consistently throughout the SMME or else only part of the information will be retrieved (see par. 4.3.4).

6.6.9 Manual systems used in SMMEs

*Question 25: In the following table, provide information on the **manual systems** the business uses to store information.*

Electronic information is not the only information that can be found in SMMEs, printed format information is also found. This information must be organised using manual systems or must be scanned to convert it to digital format. The survey and interviews revealed four types of manual systems that are commonly used to organise and store information, namely filing cabinets, ring binders, card systems and pamphlet boxes.

Ring binders are the most used system and were found in 19 of the SMMEs in the sample. These systems are mostly used to store financial information and are usually organised alphabetically according to the clients' name or chronologically according to the date. Ring binders are also used to store personnel and client information.

Filing cabinets are used in 13 of the enterprises. These are mainly used for client and personnel information, but are also used by some for inventory control and to store administrative information. Information in filing cabinets is mostly organised alphabetically according to the client or staff members' name.

Card systems were found in three of the 24 respondents and are mainly used for inventory control. Three of the respondents also make use of pamphlet boxes for inventory control and organise them chronologically according to date.

Four additional manual systems were identified at some of the SMMEs. These include books (4), binding (1), boxes (3) and pigeonholes (1). Books are mainly used for inventory control and the other three are used for the organisation of financial data.

Most of the SMMEs use combinations of manual systems to store printed information, especially ring binders in combination with filing cabinets. In each of these different information would be stored, but there are no links between related information stored in different systems.

It is possible to use the same subject headings in a filing cabinet and in an electronic folder structure. Only in one SMME was the same folder structure for electronic information used in the filing cabinet. This greatly improved the retrieval time of the information and there are not two different systems that staff have to master.

6.7 Responsibility of organising information in SMMEs

Question 28: Please indicate who is responsible for the organisation of information within the business

Question 29: Is there a need for an external information consultant for one or more of the following services?

The responsibility of organising information in SMMEs was also investigated, as well as their (SMMEs') need for external information consultants. The responsibility of organising information rests in the hands of a lot of different people within the SMME. In 13 of the SMMEs the owner/manager is responsible for the organisation of information. In 13 of the SMMEs the responsibility is that of the staff member to organise his or her own informa-

tion. Not one of the enterprises makes use of an information consultant, but eight SMMEs designated a specific person to organise information.

Further investigation, however, revealed that although there are sometimes simple systems in place they are not fully functional. The reason is mostly because the boundaries are not certain and nobody checks that people are handling the information in the right way. Nine of the 24 SMMEs use a combination of the different parties to handle information organisation.

Of the 15 that do not use a combination of parties to handle information organisation only two made it the responsibility of one staff member of the SMME and in five it is the responsibility of every staff member to organise his or her own information. In the remaining eight of the 15 the responsibility is that of the owner/manager. This makes sense because he or she is the personnel member who mostly knows what information there is and where it can be found, especially in the micro and very small enterprises.

The possibility exists for SMMEs to make use of an external information consultant. This means someone from outside the business that takes care of the organisation of information. The need for an information consultant to help the business is not a necessity.

Question 29 is divided in three different tasks that can be managed by an external information consultant. The respondents were asked to rate their need for an external information consultant to perform each task. To rate their needs a five-point scale was provided and started at 1 (no need) and ended and 5 (very great need) (see appendix A(i)).

When asked about whether there is a need to receive advice from consultants on information organisation the respondents gave it an average rating of 2.6. Training of staff to organise information received an average of 2.5 and the smallest need exists for a consultant to do the organisation of information on a contract basis. Many of the respondents said that an external information consultant that could give advice and organise information would be a great help, but the costs involved in such a service are too great and the amount of information does not warrant the expense.

Chapter 7

Model for folder structures in SMMEs

7.1 Introduction

Questions 19-23 in the questionnaire were used to determine if folder systems are used in SMMEs. The results showed that these systems are widely used to organise and store the information resources of the SMMEs (see par.6.6.2.1).

The different folder structures of the SMMEs were analysed to discover the generally used subjects that can be used to organise information. The result of the analysis is a generalised folder structure that could possibly be used in SMMEs to organise information. A second result of the analysis is a 12-step plan that serves as a guideline for the development and implementation of an effectively organised folder structure, electronic or manual.

7.2 Development of a folder structure for SMMEs

7.2.1 *Method of analysis*

Facet analysis, which allows for the breakdown of a subject into its most specific concepts, was used to analyse the folder structures found in SMMEs. Facet analysis produces a list of standard terms that can be used to organise information in a system (Rowley, 1992:184). These standard terms can be used as a list of subject headings or to create a classification system that will guide the allocation of folders and the organisation of specific documents. Facet analysis usually covers a specific subject, making it an ideal method to create an information organisation system for SMMEs.

Facet analysis provides the opportunity to use a basic class and identify certain subject areas that can be seen as facets of the basic class. Each of these facets can contain more specific concepts called foci (isolates) (Foskett, 1996:89). The first step in the analysis is the identification of facets and foci. Foci are single-concept subjects. All subjects in facet analysis can only be presented once in the list of terms. The second step is to order the foci within each facet. This may be for example alphabetically, simple to complex or chronologically. The order of the foci is important, because it creates greater

consistency in the organising of information. In the third step the decision must be made regarding the combination order (citation order) of the facets. The citation order is important because it determines how different facets must be connected to represent complex subjects. Determining a citation order ensures that documents will always be placed within the correct class, especially if a document can be placed in more than one facet. The fourth and last step is to determine the order of the facets in the overall schedule. This means the order in which the facets must be placed in the list of terms (Rowley, 1992:185-186).

A decision must now be made on whether a classification system, index, list of subject headings or a thesaurus should be created from these facets. If a classification system is chosen a notation for each subject should be added and an index (of subjects) should be created. If one of the other systems is chosen references must be inserted and rules regarding synonyms, homonyms and acronyms should be developed.

7.2.2 Development of the folder structure

In the analysis of the folder structures all the identified facets and foci had to be related to an SMME, therefore all the subjects had to be available within an SMME. This made the SMME the basic class of the analysis.

The folder structures, used in SMMEs and obtained from the businesses during the interview, as well as information types identified in chapter 3 was used to analyse folder structures and create a possible structure that can be used in SMMEs.

Related subjects, found in these two source lists, were grouped together and the commonality between them identified. This commonality was used as the facets in the analysis. The commonality in each group could also be identified as business processes found within SMMEs. Business processes are known and understood in SMMEs; this can make the implementation of the proposed folder structure easier. Six facets were identified, namely financial management, forms and formats, human resources management, general management, marketing and sales, production and purchasing.

In some instances the specific subjects (foci) found in each of the facets were subdivided to ensure that the most specific subjects were presented. Only three levels were used in the subdivision, although more are possible. In a folder system, especially an electronic system, too many clicks with a computer mouse can cause irritation with the systems.

Too many levels in a folder system can result in information not being organised correctly. Notes are provided where possible, for SMMEs that desires a more in-depth organisation of their information, but the three provided levels should be adequate to organise information in most cases.

The choice of term to present a possible name of a folder was considered carefully. The terms identified in the two source lists were studied and the most widely used terms in the existing systems were chosen where possible. Some of the subjects were closely related and a group term was chosen to present all of these subjects. The notes assist the information organiser to determine where a specific document should be placed. These notes contain possible synonyms as well as a list of subjects that specific terms should be used for. For example:

Promotions
Advertising
Gifts
<i>(Class here information on guarantees, warranties, competitions, etc.)</i>

After the identification of the facets and the foci the order of the facets was established as well as the order of the foci within each facet. The order of importance, in which the business processes were placed according to question 9 of the questionnaire, (see par. 6.4.2), was used as the preferred order for the facets. Although in this order financial management was placed first, it was decided to place the general fields of forms and formats and management first. The rest of the facets were placed according to the first defined order. These two facets include many general subjects in SMMEs and can be combined with any other subject to form more complex subjects. The result of the placing was the following order of facets in the schedule:

Forms and formats – General Management – Financial management – Production – Purchasing – Marketing and sales – Human resource management

The ordering of the facets and foci placed some of the subjects in alphabetical order. If the subjects are used to create an electronic folder structure, the automatic organisation of folders in the software, especially in a Windows environment, will place the folders in alphabetical order. This will cause the ordering of the subjects according to the preferred order to be lost. To maintain this order a notation is provided that can be placed in front of the folder.

The notation decided on is a double numbers value and is only used for the organisation of the main facets. The double numbers, e.g. 00, 02 ensures that the class number 10 will not be organised after 01, but after 09 and so keep the assigned order of the subjects. The notation does not follow the natural numerical sequence, for example 01 does not follow 00. The structure also contains unused notations, because there may be some other facets that the business has identified and wants to add to the structure. The fact that 01 is not used create the possibility of inserting a new main facet in that specific place in the schedule (see appendix J(i)).

The foci are therefore alphabetically organised within each facet. Adding notation to specific subjects within each facet would make the system more complex and difficult to use. An alphabetical organisation of the subjects allows for the adding of new subjects, as they are needed in the structure. The complete folder structure is provided in appendix J(i).

Table 7.1: List of the main facets of the folder structure (see appendix J(i))

Notation	Main facets	Description
00	Forms and formats	General class. Contain documents used as templates, such as letters.
02	Management	General management information found in SMMEs.
05	Financial management	All subjects on financial management
07	Production	All subjects on the production of goods and services
08	Purchasing	All subjects on the purchasing of products, including suppliers
10	Marketing and sales	All subjects on marketing of products and the sale of products
12	Human resource management	All subjects necessary to manage the staff of an SMME

The specific subjects in each of the main subjects are based on natural language and are therefore terms that are used daily in the SMME. This makes the logic of the structure easy to understand, but also makes the structure easy to use. An information organisation system based on natural language is easy to adapt to developments that bring new information resources.

Natural language may present an easy system, but it has certain drawbacks that must always be remembered. Terms for certain aspects of business do not only differ from person to person, but synonyms for nearly all concepts exist in language. This could cause problems in a system based on natural language, therefore, the subject names used must be decided on beforehand and everybody should use these terms when organising information resources.

The folder structures provided by the SMMEs contained a lot of synonyms, acronyms and sometimes homonyms. Although the structure is based on natural language a term had to be chosen to present the subject in the schedule. To ensure that the preferred term is accessible by all a subject index was created as part of the folder structure. The subject index contains all the terms, synonyms and preferred, including the notation of the main facet. References, mainly see references, were made from the synonyms to the preferred term (see appendix J(ii)). Placing the notation with the term makes it easier to access the folder structure. The index can be kept in printed form near each computer. This will enable staff to easily locate the correct folder when the documents have to be stored or retrieved.

This folder structure based on natural language is ideal for an SMME. It is cost effective and, if planned, very effective for organising a variety of information within a small business. It is based on language known to personnel and the owner/manager so no extra cost in the acquisition and training of a system that will not be used because of its complexity is necessary. The only time consumed by this system is the initial planning.

The structure can easily be adapted for manual systems. Using the same structure for electronic and manual information will provide the SMME with an information organisation system used throughout the business. Therefore, information will be available in any system when it is needed and so enhance the competitiveness of the SMME.

7.2.3 Applying the folder structure

To use the proposed folder structure the following steps can be followed. The example of an electronic document is used to illustrate the steps.

Step 1: Identify the main and specific subject of the document. The document should be analysed and the necessary subjects formulated. If the document is a report from an auditor the main subject of finance and the specific subject of auditor can be identified.

Step 2: Consult the folder structure to determine in which folder the document should be placed. If the right folder is found go to step four and save the document in the correct folder.

Step 3: If the correct folder cannot be found the subject index should be consulted to determine the correct form of the subject. For example: financial management, auditing

Step 4: If the correct form is found the folder structure can again be consulted and the document saved in the correct folder.

Step 5: If necessary a new folder, such as a folder with a client's name, can be created using the notes provided at some of the subjects.

Step 6: If a new subject must be added to the folder structure the procedure given in the 12-step plan (see par. 7.3) should be followed, especially steps 2-5.

7.3 Guidelines for the development and implementation of a folder structure system

The following is a 12-step plan that can be used to develop a subject orientated information organisation system that can be used in an electronic folder system, as well as manual systems such as filing systems or ring binders. The outline of the 12 steps is provided in appendix K.

1. Identify information that must be organised

To find the information that must be organised a needs assessment should be done to determine the information needs of the SMME. The type of information that must be organised will depend on the needs of the business. When conducting a needs assessment in SMMEs focus on the identification of business-critical information, the information

necessary to survive. SMMEs have little time and space and cannot be overloaded with information that *might* be useful.

1.1 Choose needs assessment method

The needs assessment can be conducted informally or formally. Informal conversations with personnel regarding the information they use, need and want can provide the necessary information on information needs in the SMME. Even paging through the most often used documentation in the SMME can give an idea on information needs. Interviews & surveys and even information audits can be conducted to discover the information needs in a more formal manner.

In an SMME with two or more staff members informal conversations would be the best method for needs assessment. If there is only one staff member a small information audit might be the best method for needs assessment. Formal methods are mostly used for large samples and will more likely be used in medium and large enterprises

1.2 Design and plan the method

The needs assessment method must be planned and designed to ensure consistency in the identification of the information needs. If the choice is an informal method, for example informal conversations, a list of topics that must be covered should be constructed. The list of topics will guide the conversations and ensure that all the information needs are discovered.

1.3 Conducting the needs assessment

1.3.1 Scheduling

Staff members have schedules and deadlines that must be kept or met. The same is true of an SMME with only one or two employees. Appointments should be made to see staff members for the purpose of needs discovery.

1.3.2 Note identified information needs

The needs identified should be noted. If this is not done some information might not be available in the SMME and the proper structure for organisation of such information will not be available.

2. Identify the information resources that contain the information

All the possible information resources, printed, electronic and oral, should be investigated. It is very important to identify the resources that contain the best information for satisfying the need in SMMEs, especially the business-critical needs. Identifying the most important sources could possibly decrease the number and type of information resources that must be organised and stored, which in turn, could simplify the organisation system being developed.

2.1 Investigate current information sources

Investigate the information sources that are currently used to determine their usefulness for satisfying information needs. Observe the currency of the source, how often it is used, who is using it, what information needs are satisfied by the source and if there is any other source that delivers the same information and satisfies the same needs. Such an investigation will determine if it is still necessary to use the source in the business or if a different source should be found.

2.2 Search for possible new information sources

Sources that are currently not used in the SMME can be searched for. These sources might replace some of the older sources or satisfy certain information needs. The Internet, publisher catalogues and libraries can be used to find new information sources.

3. Identify the main subjects

The concepts that are identified will be the main subject areas within the system under which all the other more specific subjects will be organised.

3.1 Group related subjects

Group all the different information together in smaller units of your choice. You must therefore decide what information, to you, fits logically with each other.

3.2 Identify the main characteristic of each group

Determine its main characteristic, for example finances or personnel and then formulate a term for it, for example human resources. The terms used to describe the main characteristic of each group are used as the main subjects of the system.

4. Identify all the terms within each group.

These terms are used as the specific subjects for each main subject. For example in the main subject Financial management there are accounting, creditors and debtors.

4.1 Synonyms, homonyms and acronyms

Information organisation using natural language creates the problem of synonyms (words with the same meaning), acronyms (words formed from the initial letters of other words) and homonyms (words that look the same, but have different meanings). Therefore, a decision should be made as to which one of the synonyms for a term will be used to organise documents on that subject. Acronyms are seen as synonyms and the decision should be made whether to use the acronym or the full expression. Homonyms should be defined to ensure that the differences in meaning are clear. A list of preferred terms that contains the synonyms and acronyms should be maintained. This list must have a reference from the synonym to the preferred term. This will ensure that the correct form of the subject is used in information organisation.

4.2 Corporate and personal names

Names of persons can be written in many different ways, for example John Smith, J. Smith and Smith, J. The preferred form of names of persons should be defined. The way in which names are written has an impact on the organisation of folders in a computer. Using one form will ensure that all information is organised the same way, thus making information easier to find.

5. Define the terms used to describe subjects

Each subject that was chosen to describe information should be defined. The reason for this is that when new sources must be organised in the system and the person responsible is unsure where it should go he or she will read the description. The description of the terms will help for the source to be placed in the right place.

6. Decide on the number of hierarchical levels of the system

The number of levels in a folder system should be carefully considered. Too few levels and some of the information will not be organised properly and be lost in other data. Too many levels can, on the other hand, cause frustration and loss of time because it takes too long to find the information one is looking for.

Most creators of electronic folder structures use three (at most four) levels to organise their information. More than three levels requires too much clicking with the mouse. If it is possible, three levels should be implemented when designing a folder structure. A small number of levels is easier to learn than a large number of levels and each time the right one must be searched for.

7. Decide on the sequence of the main and specific subjects

The sequence in which the subjects are placed can be very important in the retrieval of information. If there is, for example, a specific subject that must be accessed daily it could help to place it at the beginning so that it can be accessed quickly and easily.

7.1 Choose an order method for main and specific subjects

Different methods exist to determine the order in which the main and subordinate subjects should be placed. Subjects can for example be ordered chronologically, according to space, alphabetically and the order preferred by the user. Place all the main and specific subjects in the chosen order within the system.

7.2 Notation

Computers organise all information and folders alphabetically, especially in the Windows environment. If an alphabetical folder system is not optimal the order can be manipulated by adding a notation to produce the preferred order.

Firstly a letter of the alphabet can be placed in front of the name of the folder, for example "A Financial information". This will cause this folder to be at the top of the folder list. The second method is to use numbers instead of letters. One should always remember that a computer organises the numbers 10, 11, 12 after one and before two. To prevent this it is better to use two or three digit numbers, for example "100 Financial management". Each hierarchical level in the folder structure must keep the notation of the main subject (parent folder), but add to that its own notation, for example:

100 Financial management
101 Accounting
102 Tenders and Quotes

8. Implement the system

When implementing the system make sure that enough time is allocated. It could take a while to implement a new system especially if resources must be organised all over again. Use personnel to implement the system. This will give them first hand experience of the system and make it more acceptable to them.

If the SMME is moving from an old system to a new system the decision should be made whether to move all the information at once or per section, usually starting with the section that is used most often.

9. Make use of the properties pages in documents

When organising information it should be placed in the correct folder, and the properties dialog box provided in MS Office documents should be completed. On this page keywords and descriptions can be given to the document and be used in searches using Windows or MS Office search engines. If an information resource should get lost it will be easy to find if the properties page was completed.

The same subjects used in organising a file in the folder structure should be used to allocate the keyword and descriptions in the properties dialog box. Personnel then only have to learn one set of subjects that can be used throughout the information organisation system. This ensures that the information will always be found.

10 Old and outdated information resources

If possible old and outdated information should be deleted. If a new system is implemented the outdated information sources should be deleted before the migration to the new system. This will ensure that only the most current information sources and information are available in the new system.

Old and outdated information should regularly be deleted from the system. It only takes up space that can be used for other resources and could cause confusion if it is an older version of an important document.

11 Encourage personnel to use the system

Personnel in the SMME should be encouraged to use the system. If this is not done the development of the system will be a waste of time and money. Encouraging personnel to

use the system can result in the better availability of information, better decision-making and thus more success.

12 Keep the system up to date

The information world is a world of change where new concepts and information resources are born every day. For the system to function properly it must be regularly updated to really be an asset in the SMMEs day-to-day management.

When designing a system it is important to remember that it should be tailored to the needs of the business. A carefully developed system will not only effectively organise information, but also make retrieval easier – organisation done according to a set rule provides a method to retrieve it again either through browsing or searching. The 12-step plan helps to create an information organisation system that organises information, create a mechanism for retrieval of information and have processes that will ensure that the information within the system is current and useful.

Chapter 8

Conclusions and recommendations

8.1 Introduction

The general conclusions arrived at during the study are stated in this chapter. Recommendations for possible further research are also given.

8.2 General conclusions of the study

The study has shown that in some cases it is not possible to classify SMMEs using more than one of the criteria (number of employees, total annual turnover, total value of assets) provided by the Small Business Act (Act 102 of 1996) and other authors like Rogerson (1997) and Martins and Tustin (1999). Knowledge-based enterprises conduct business via the Internet and deliver specialised products according to the needs of their clients. The possibility therefore exists that an SMME with between one and five employees can have an annual turnover that places it in two different categories according to the government's criteria.

The studied SMMEs regard information availability as critical to their survival. This finding supports statements in literature on information in business processes that express the opinion that information is needed for these processes to function properly. Information is not only needed for the functioning of business processes, but also created during the execution of these processes. SMMEs are, therefore, an information rich environment. Personnel, however, are not always sure how to extract and use information to the advantage of the business, and the literature provides little or no guidance in this regard, specifically aimed at SMMEs.

The study has shown that many SMMEs are using computers. The larger SMMEs, such as small enterprises, are more likely to make use of computers than micro and very small enterprises. Most SMMEs implement computers to solve problems, such as document creation and storage.

The study also found that computers in SMMEs are used for the creation and storage of business data and documents. The other facilities of computers such as the Internet, e-

mail and other software are not fully utilised, because traditional systems such as telephones and informal conversations are preferred. Most SMMEs make use of Microsoft applications software, because these are well known, but are unaware of other systems that are less expensive and more effective, even though some find them effective or efficient.

The study has shown that the process of information organisation is regarded as critical by all SMMEs. The current systems in place in SMMEs can be either electronic or manual, but usually a combination of both is used. Very few of the personnel in SMMEs can use their system to its full capacity. The study has also found that personnel in SMMEs do not have the necessary knowledge of information organisation principles, information organisation systems and the adaptation thereof for a specific environment, which results in the development of less effective information organisation systems.

8.3 Recommendations for further research

Possible areas for further investigation are:

1. The re-definition of SMMEs from the perspective of information management. This will create the possibility of developing an information service tailored to the specific needs of a group of SMMEs.
2. Development of an integrated system by which SMME personnel may easily extract internal information from a variety of business information sources. Such a system would ensure that all possible information available in the SMME is utilised, but it should be understandable, easy to use and require little or no training.
3. The delivery of necessary external information easily and effectively to SMMEs, according to their individual needs.
4. Personnel training in the utilisation of computers, especially the enhancement of the business processes in an SMME through the introduction of technology.
5. The identification of software applications, such as open source software, that are less expensive and will satisfy the software needs of the SMMEs.

6. Literature on the subjects of information management and information organisation should be developed especially literature that focus on the SMME. Some of the SMMEs realise what the possibilities of effective information use are, but they need support to develop and make use of information.

Source: <http://www.sme.org.za/2010/07/01/sme-best-practices/>

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Appendix A(i)

Date: _____ Name of business: _____

Name of respondent: _____

Postal address: _____

Telephone: _____ Fax: _____ E-mail: _____

Business desires feedback? Y N

1. Describe the type of business (e.g. pharmacy, furniture store, lawyer, butchery)
-

2. Select a category in each of **A** and **B** that classifies the business.

A	Number of employees	1 – 5	6 – 10	11 – 50	51 – 100	101 – 200
B	Annual turnover	\leq R0.3m.	R0.3m– R5m	R5m– R25m	R25m – R40m	

3. In which of the following industry sectors would you place the business?

- Accommodation (e.g. guest houses, hotels)
- Building, construction and architecture
- Services (e.g. legal services)
- Financial services and investments (e.g. auditors, accountants)
- Health and medical services
- Engineers
- Information and publication (e.g. publishers, bookstores, newspapers)
- Art, curios and gifts
- Agriculture, forestry, fisheries
- Furniture and decor
- Fashion and accessories (e.g. clothing stores)
- Automobile sales, parts and other services
- Education and training
- Computers, soft ware and accessories
- Restaurants
- Tourism

- Transportation
- TV, radio and telecommunication
- Production
- Food and drink (*e.g. butgeries, distributors*)
- Other (please specify) _____

4. Does the business use computers? Y N

If No, why not? _____

5. How many computers are used by the business?

- 1
- 2-4
- 5-9
- 10-14
- 15-20
- more than 20

6. Are the computers connected in any of the following ways?

- Computers are not connected
- A local area network (LAN)
(network only available in the business)
- A wide area network (WAN)
(network is larger, e.g. more than one business)
- An Intranet
- Connected to the Internet
- Other (please specify) _____

Please use the following scale to answer questions 7-15:

0 Not applicable	1 Of no importance	2 Somewhat important	3 Of average importance	4 Very important	5 Of critical importance
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7. How important are **computers** for the following practices in the business?

- Creation and storage of business data / records
(e.g. transactions, finances, personnel, clients)
- Analysis of business data for use in decision-making
(e.g. financial reports, statistics, charts)
- Creation and storage of documentation (*e.g. letters, contracts*)

- Search for information (e.g. *Internet, databases*)
 - Communication (e.g. *e-mail, fax*)
 - Design / development of products (e.g. *graphic design*)
 - Delivery of services (e.g. *consultation, training*)
 - Project management (e.g. *research projects*)
 - Electronic banking
(e.g. *transfers, bank statements, payment of accounts*)
 - E-commerce (e.g. *orders, client payments*)
 - Other (please specify)
-
-

8. How important is **information** in general for the business?

(Information can be described as any data that are captured, manipulated, stored and used, and any form of document; printed, microform or electronic).

- _____

9. How important is information for the execution of each of the following business processes?

- Strategic planning _____
- Production / delivery of services _____
- Marketing and sales _____
- Purchasing _____
- Financial management _____
- Personnel management _____
- Other processes (please specify)

10. Businesses obtain information from the internal and the external environment. (The **external environment** contains those factors which are outside the control of the business; for example: the economy, politics etc. The **internal environment** is that which the business can control; for example: finances, personnel, products and services etc.) How important is information from each of these environments for the business?

- External environment
- Internal environment

11. Indicate how important **information on** each of the following aspects of the internal or external environments is for the business.

- Political developments
(e.g. *political stability & ideologies*)
 - Legislation
(e.g. *new labour or tax laws, the smoking policy*)
 - The economy (e.g. *economic growth, inflation, stock markets, sources of capital*)
 - Socio-cultural factors (e.g. *demographics, lifestyle*)
 - Ecological issues (e.g. *pollution, climate, biological*)
 - Technology (e.g. *new technology that can be used in production, administration, communication, information systems*)
 - Competition (e.g. *who they are, their products, services, prices and strategies*)
 - Suppliers (e.g. *contact information, products, price lists*)
 - Clients / potential clients (e.g. *contact information, needs, satisfaction, complaints*)
 - Special needs or requests from clients
 - How to plan strategies (e.g. *procedures, models*)
 - Creditors (e.g. *names, amounts, payment dates*)
 - Debtors (e.g. *names, amounts, payment dates*)
 - Marketing strategies
 - Sales figures of own products / services (e.g. *number of items, monetary value*)
 - Activities of sales representatives (e.g. *client visits, success rate*)
 - Product design (e.g. *information on materials, apparatus needed*)
 - Product information for marketing (*description of own products and services, price lists, catalogues*)
 - Stock levels (*number of products in stock*)
 - Production costs (*costs associated with production*)
 - Production figures (*number of items produced*)
 - Job specifications and advantages of personnel
 - Job descriptions and analysis (personnel)
 - Training of personnel (e.g. *training material, methods*)
 - Information on the knowledge and skills of personnel (e.g. *CVs*)
 - Performance evaluation (e.g. *criteria, methods*)
 - Other (please specify)
-
-

12. Information may appear in many formats. How important is each of the following formats for the business?

- Electronic (computer) format
- Printed format
- Verbal communication

13. All information used is obtained through certain channels of communication and from certain information sources. How important is each of the following as channels and sources of information for the business?

- Internet
 - Online databases
 - Databases on CD-ROM
 - E-mail
 - Fax messages
 - Periodicals, newspapers and news-letters
 - Books (*e.g. reference works, textbooks*)
 - Government publications (local and national)
 - Reports (*e.g. research reports, annual reports of competitors*)
 - Patents and standards
 - Catalogues of products and materials
 - Telephone calls
 - Meetings (including agendas, discussions etc.)
 - Conversations with personnel, clients and distributors
 - Conferences, workshops and seminars
 - Career or trade associations (*e.g. chamber of commerce*)
 - State departments and other governing bodies
 - Radio and television
 - Other (please specify)
-
-

14. How important is it for all the **electronic information** obtained from the different internal and external sources and channels to be **integrated** into one information system?

- _____

15. How important is it for the execution of business processes that the business's information (electronic en printed) be **organised**?

16. How well is the business's information **currently** organised?
(*Make use of the following scale*).

1 very poor	2 poor	3 average	4 good	5 very good
----------------	-----------	--------------	-----------	----------------

17. If 1, 2 or 3 is indicated at question 16, what are the most important reasons why information is **not** well organised?

18. In the following table, provide information on the **computer programs and systems** used to store, retrieve and analyse information in the business. Indicate:

(a) Which **programme or system**

(e.g. Pastel, Corel Draw, MS Word, MS Excel, MS Project, Outlook Express, Internet Explorer)

(b) What **sort of information or applications** the programme is used for

(e.g. finances, contact information of clients / distributors, stock control, personnel records, project management, E-mail, Internet searches, design, management information, decision support)

(c) How effectively does the system work according to the following scale

1 Not at all	2 Somewhat	3 Average	4 Very	5 Highly
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(d) What **problems** (if any) experienced with the system.

(a) Programme / System	(b) Information / Applications	(c) Eval.	(d) Problems

19. How are the computer folders created / received by the above-mentioned systems stored? (*more than one may be indicated*)

- In folders on a central server (in the case of network systems)
 - In folders on individual personnel members' computers
 - In folders associated with specific programs (e.g. *Excel-folders together, Word-folders together, Pastel-folders together*)
 - A variety of files **without subdivision** under **My Documents** (or a similar folder)
 - In a system of **self-created subfolders** under My Documents (or elsewhere) **(OBTAIN A COPY OF THE DIVISION OF FOLDERS)**
 - Other (please specify)
-

20. How are e-mail messages stored?

- In the folders provided by the e-mail system (e.g. *Inbox, Sent items*)
 - In a system of **self-created subfolders** within the e-mail programme **(OBTAIN A COPY OF THE DIVISION OF FOLDERS)**
 - Other (please specify)
-

21. How are e-mail attachments stored?

- With the e-mail message in the e-mail system's folders
 - Separate from the e-mail in folders with other similar documents (see question 19)
 - Other (please specify)
-

22. How are Internet sources' addresses (URLs) stored?

- Without subdivision in the browser's Favorites / Bookmarks folder
 - In a system of self-created subfolders under Favorites / Bookmarks **(OBTAIN A COPY OF THE DIVISION OF FOLDERS)**
 - Other (please specify)
-

23. How are files downloaded from the Internet stored?

- In a special folder for downloads

- In the usual folder system (e.g. under *My Documents*) with other similar documents (see question 19)
- Other (please specify)
-

24. Which of the following methods / aids are used to find specific computer folders?

- "Browse" in folders
(with *Windows Explorer*, *My Computer* or <File> <Open> in the application programme, e.g. *MS Word*)
- Windows Explorer's search facility
(<Explorer> <Tools> <Find> <Files & Folders> or <Start> <Find> <Files & Folders>)
- MS Office's search facility (<Office> <Tools> <Find>)
- Windows' "Find Fast" facility (*Control Panel*)
- Filling in of information in the "properties" page of documents
- Other (please specify)
-

25. In the following table, provide information on the **manual systems** the business uses to store information. Indicate:

- a) The **type of system** (e.g. filing cabinets, pamphlet boxes, ring binders, card systems)
- b) **The type of information sources** or applications the system is used for (e.g. quotations, orders, invoices, accounts, receipts, bank statements, contact information of clients / distributors, stock control, personnel records)
- c) **How information is organised**
(e.g. alphabetically according to client or personnel member or subject, or chronologically according to date, or numerically according to a series number or a code number, or systematically according to a classification system)

System	Information / Applications	Method of Organisation

26. Are information sources in any of the systems (computer or manual) organised or classified **alphabetically according to specific subjects or broad categories** (e.g. categories of expenses, clients, products, services, personnel members or types of documents such as letters, contracts etc.)?

- Yes **IF YES, PLEASE PROVIDE A COPY OF THE LIST(S)**
 No

27. Are information sources in any of the systems (computer or manual) organised systematically or classified according to a designed **classification system**?

- Yes **IF YES, PLEASE PROVIDE A COPY OF THE SYSTEM**
 No

28. Please indicate who is responsible for the organisation of information within the business (*more than one may be indicated*)

- The owner / manager
 Individual personnel member who sees to all information (e.g. *librarian or filing clerk*) Job description: _____
 Each personnel member organises the information with which he / she works
 An external information consultant
 Other (please specify)

29. Is there a need for an external information consultant for one or more of the following services? (*Indicate using the following scale*)

1	2	3	4	5
No need	Some need	Average need	Great need	Very great need

- Advice for personnel members on the organisation of information
 Training of personnel in how to organise information
 The organisation of information in the business on a contract basis
 Other (please specify)

Appendix A(i)

Datum: _____ Naam van die besigheid: _____

Naam van respondent: _____

Posadres: _____

Telefoon: _____ Faks: _____ E-pos: _____

Besigheid wil terugvoer hê? **J** **N**

1. Beskryf die soort besigheid (bv. apieek, fietswinkel, meubelwinkel, prokureur, slaghuis)

2. Klassifiseer u besigheid deur een kategorie by **A** en een by **B** te merk met 'n **X**

A	Getal personeel	1 – 5	6 – 10	11 – 50	51 – 100	101 – 200
B	Jaarlikse omset	\leq R0.3m.	R0.3m– R5m	R5m– R25m	R25m– R40m	

3. Onder watter **een** van die volgende kategorieë sal u die onderneming indeel?

- Akkommodasie (bv. gastehuise, hotelle)
- Bouwerk, Konstruksie en Argitektuur
- Dienste (bv.regsadvies)
- Finansiële dienste en Beleggings (bv. ouditeurs, rekenmeesters)
- Gesondheid en Mediese dienste
- Ingenieurs
- Inligting en Publikasie (bv. uitgewers, boekwinkels)
- Kuns, curios en geskenke
- Landbou, Bosbou, Vissery
- Meubels en dekor
- Mode en bykomstighede (bv. klerewinkels)
- Motorverkope, -onderdele en -herstelwerk
- Opvoeding en opleiding

- Rekenaars, sagteware en bykomstighede
- Restourante
- Toerisme
- Transport
- TV, Radio en Telekommunikasie
- Vervaardiging
- Voedsel en drank (*bv. slaghuise, verspreiders*)
- Ander (spesifiseer asseblief) _____

4. Word rekenaars in die onderneming gebruik? J N

Indien **Nee**, hoekom nie? _____

5. Oor hoeveel rekenaars beskik die besigheid?

- 1
- 2-4
- 5-9
- 10-14
- 15-20
- meer as 20

6. Is die rekenaars op enige van die volgende wyses gekoppel?

- Rekenaars is nie gekoppel nie
 - 'n Lokale area netwerk (LAN)
(netwerk slegs binne die onderneming)
 - Wye area netwerk (WAN)
(netwerk is groter, bv. meer as een besigheid)
 - 'n Intranet
 - Gekoppel aan die Internet
 - Ander (spesifiseer asseblief)
-
-
-

Antwoord asseblief vrae 7-15 deur van die onderstaande skaal gebruik te maak:

0 Nie van toepassing	1 Van geen belang	2 Van min belang	3 Van gemiddelde belang	4 Van groot belang	5 Van kritieke belang
----------------------------	-------------------------	------------------------	----------------------------------	--------------------------	--------------------------------

7. Hoe belangrik is **rekenaars** vir elk van die volgende gebruikte in u onderneming?

- Skeep en berging van besigheidsdata/-rekords (bv. transaksies, finansies, personeel, kliënte)
- Analise van besigheidsdata vir besluitneming (bv. finansiële verslae, statistieke, grafieke)
- Skeep en berging van dokumentasie (bv. brieve, kontrakte, verslae)
- Soek van inligting (bv. die Internet, databasisse)
- Kommunikasie (bv. e-pos, faks)
- Ontwerp/ontwikkeling van produkte (bv. grafiese ontwerp)
- Lewering van dienste (bv. konsultasie, verhuring, opleiding)
- Projekbestuur (bv. ingenieursprojekte, navorsingsprojekte)
- Elektroniese banksake (bv. oorplasings, bankstate, betalings van rekeninge)
- Elektroniese handel (bv. bestellings, betaling deur kliënte)
- Ander (spesifiseer asseblief)

8. Hoe belangrik is inligting oor die algemeen vir u onderneming?

(Onder inligting word verstaan enige data wat vasgevang, verwerk, gestoor en gebruik word en enige vorm van dokument, gedruk, mikrovorm of elektronies.)

9. Hoe belangrik is inligting vir die uitvoering van elk van die volgende spesifieke besigheidsprosesse?

- Strategiese beplanning _____
- Produksie / Dienslewering _____
- Bemarking en Verkope _____
- Aankope _____
- Finansiële bestuur _____
- Personeelbestuur _____
- Ander prosesse (spesifiseer asb) _____

10. Ondernemings verkry inligting vanuit die eksterne en die interne omgewing. (*Die **eksterne omgewing** is die faktore wat buite die besigheid se beheer is, bv. die ekonomiese, staat, politiek, ens. Die **interne omgewing** is dit waaroer die besigheid beheer het, bv. eie finansies, personeel, produkte, dienste, ens.*)

Hoe belangrik sou u sê is die inligting afkomstig uit elke omgewing vir die besigheid?

- Eksterne omgewing
- Interne omgewing

11. Dui by elk van die volgende aspekte van die eksterne of interne omgewing aan hoe belangrik **inligting daaroor** vir u onderneming is.

- Politieke ontwikkelinge
(bv. politieke stabiliteit & party-ideologieë)
- Wetgewing en regeringsbeleid
(bv. nuwe arbeidswetgewing, belastingwette, rookbeleid)
- Die ekonomie (bv. ekonomiese groei, inflasie, aandelemarkte, kapitaalbronne)
- Sosiale-, kulturele faktore (bv. demografie, lewensstyl)
- Ekologiese kwessies (bv. besoedeling, klimaat, biologies)
- Tegnologie (bv. nuwe tegnologie wat gebruik kan word in vervaardiging, administrasie, kommunikasie, inligtingstelsels)
- Kompetisie (bv. wie hulle is, hulle produkte, dienste, pryse en strategieë)
- Verskaffers (bv. kontakinligting, produkte, pryslyste)
- Kliënte/potensiële kliënte (bv. kontakinligting, behoeftes, tevredenheid, klagtes)
- Spesiale behoeftes of versoekte van kliënte
- Hoe om strategies te beplan (bv. prosedure, modelle)
- Krediteure (bv. name, hoeveelhede, betaaldatums)
- Debiteure (bv. name, hoeveelhede, betaaldatums)
- Bemarkingstrategieë
- Verkoopsfyfers van eie produkte/dienste
(bv. aantal items, geldwaarde)
- Aktiwiteite van verkoopsverteenwoordigers
(bv. besoeke aan kliënte, sukseskoers)
- Ontwerp van produkte
(bv. inligting oor materiaal, apparaat nodig)
- Produk inligting vir bemarking (beskrywing van eie produkte en dienste, pryslyste, katalogusse)
- Voorraadvlakke (aantal produkte in voorraad)

- Produksiekoste (*koste verbonde aan vervaardig*)
 - Produksiesyfers (*hoeveelheid items wat vervaardig word*)
 - Diensvoorraarde en –voordele van personeel
 - Posbeskrywings en –ontleding (personeel)
 - Opleiding van personeel (*bv. opleidingsmateriaal, metodes*)
 - Inligting oor kennis en vaardighede van personeel
(*bv. kundigheidsregisters, CVs*)
 - Prestasiebeoordeling (*bv. kriteria, metodes*)
 - Ander (spesifiseer asseblief)
-
-

12. Inligting kan in 'n aantal formate voorkom. Hoe belangrik is elk van die onderstaande formate binne u besigheid?

- Elektroniese (rekenaar-) formaat
- Gedrukte formaat
- Mondelinge oordrag

13. Alle inligting wat gebruik word, word verkry deur sekere kommunikasiekanale en inligtingsbronre. Hoe belangrik is elk van die volgende as kanale en bronre van inligting vir u besigheid?

- Internet
- Intydse databasisse
- Databasisse op CD-ROM
- E-pos
- Faksboodskappe
- Tydskrifte, koerante en nuusbriewe
- Boeke (*bv. naslaanwerke, handboeke*)
- Regeringspublikasies (*plaaslik en nasionaal*)
- Verslae (*bv. navorsingsverslae, jaarverslae van mededingers*)
- Patente en standarde
- Katalogusse van produkte en materiale
- Telefoonoproeppe
- Vergaderings (*insluitende hulle agendas, besprekings, ens.*)
- Gesprekke met personeel, kliënte en verskaffers
- Konferensies, werkswinkels en seminare

- Beroeps- of handelsverenigings (bv. sakekamer)
- Staatsdepartemente en ander owerheidsliggame
- Radio en televisie
- Ander (spesifiseer asseblief)
-
-

14. Hoe belangrik is dit dat al die elektroniese inligting wat uit die verskillende interne en eksterne bronne en kanale verkry word in een inligtingstelsel geïntegreer word?

15. Hoe belangrik is dit vir die uitvoering van besigheidsprosesse dat die onderneming se inligting (elektronies en gedruk) georganiseer word?

16. Hoe goed word u onderneming se inligting oor die algemeen **tans** georganiseer? (Maak gebruik van die onderstaande skaal).

1 baie swak	2 swak	3 redelik	4 goed	5 baie goed
----------------	-----------	--------------	-----------	----------------

17. Indien 1, 2 of 3 by vraag 16 gemerk is, wat is die belangrikste redes waarom inligting **nie** goed georganiseer word nie?

18. Verstrek in die volgende tabel inligting oor **rekenaarprogramme en -stelsels** wat in u onderneming gebruik word om inligting te berg, herwin en analiseer. Dui aan:

(a) Watter **program of stelsel**

(bv. Pastel, Corel Draw, MS Word, MS Excel, MS Project, Outlook Express, Internet Explorer)

(b) Vir watter **soort inligting of toepassings** die program gebruik word
(bv. finansies, kontakinligting van kliënte/verskaffers, voorraadbeheer, personeelrekords, projekbestuur, E-pos, Internetsoektogte, ontwerp, bestuursinligting, besluitnemingsteun)

(c) Hoe **doeltreffend** die stelsel vir u werk volgens die onderstaande skaal

1 Glad nie	2 Redelik	3 Gemiddeld	4 Baie	5 Hoogs
---------------	--------------	----------------	-----------	------------

(d) Watter **probleme** (indien enige) u met die stelsel ondervind.

(a) Program/Stelsel	(b) Inligting/Toepassings	(c) Eval	(d) Probleme

19. Hoe word die rekenaarleers wat deur bogenoemde stelsels geskep/ontvang word geberg? (*meer as een kan gemerk word*)

- Geen stelsel word aangetref nie
- In folders op 'n sentrale bediener
(*in die geval van netwerkstelsels*)
- In folders op individuele personeellede se rekenaars
- In folders wat geassosieer is met spesifieke programme (*bv Excel-leers bymekaar, Word-leers bymekaar, Pastel-leers bymekaar*)
- 'n Verskeidenheid van leers sonder onderverdeling onder My Documents (of 'n soortgelyke folder)
- In 'n stelsel van selfgeskepte sub-folders onder My Documents (of elders)

(VERKRY 'N KOPIE VAN DIE INDELING VAN FOLDERS)

- Ander (spefiseer asb)
-
-

20 Hoe word e-posboodskappe geberg?

- In die folders wat die e-posstelsel verskaf (bv. Inbox, Sent items)
 - In 'n stelsel van selfgeskepte subfolders binne die e-posprogram
(**VERKRY 'N KOPIE VAN DIE INDELING VAN FOLDERS**)
 - Boodskappe word uitgedruk
 - Elke personeellid het sy eie folders
 - "Export" na 'n epos folder
 - Ander (spefiseer asb)
-

21 Hoe word e-posaanhegsels ("attachments") geberg?

- Saam met die e-posboodskap in die e-posstelsel se folders
- Apart van die e-pos in folders saam met ander soortgelyke dokumente (kyk vraag 19)
- Word uitgedruk
- "Export" na 'n epos folder
- Ander (spfiseer asb) _____

22 Hoe word Internetbronne se adresse (URLs) geberg?

- Sonder onderverdeling in die "browser" se Favourites/Bookmarks folder
- In 'n stelsel van selfgeskepte subfolders onder Favorites/Bookmarks
(VERKRY 'N KOPIE VAN DIE INDELING VAN FOLDERS)
- Ander (spfiseer asb) _____

23 Hoe word lêers wat van die Internet afgelaai word ("downloads"), geberg?

- In 'n spesiale folder vir "downloads"
- In die gewone folder-stelsel (bv onder My Documents) saam met ander soortgelyke dokumente (kyk vraag 19)
- Word uitgedruk
- Word glad nie gehou nie
- Ander (spfiseer asb) _____

24 Watter van die volgende metodes/hulpmiddels gebruik u om spesifieke rekenaarlêers op te spoor?

- Geen metode word gebruik nie
- "Browse" in folders
(met Windows Explorer, My Computer of <File> <Open> in die toepassingsprogram , bv. MS Word)
- Windows Explorer se soekfasilitet
(<Explorer> <Tools> <Find> <Files & Folders>
of <Start> <Find> <Files & Folders>)
- MS Office se soekfasilitet (<Office> <Tools> <Find>)
- Windows se "Find Fast" fasilitet (Control Panel)
- Invul van inligting in die "properties"-bladsy van dokumente
- Funksies wat deur programme verskaf word

25 Verstrek in die volgende tabel inligting oor **handstelsels** wat in u onderneming gebruik word om inligting te berg. Dui aan:

- (a) Watter soort **stelsel** (bv. *liasseerkabinette, pamfletdose, ringlêers, kaartjies*)
- (b) Vir watter soort inligtingsbronne **of toepassings** dit gebruik word (bv. *kwotasies, bestellings, fakture, rekeninge, kwitansies, bankstate, kontakinligting van kliënte/verskaffers, voorraadbeheer, personeelrekords*)
- (c) Hoe die inligting gerangskik word (bv. **alfabeties** volgens kliënt of personeellid of onderwerp, of **chronologies** volgens datum, of **numeries** volgens 'n reeksnommer of 'n kodenommer of **sistematises** volgens 'n klassifikasiesisteem)

Stelsel	Inligting/Toepassings	Rangskikkingsmetode

26 Word inligtingsbronne in enige van die stelsels (rekenaar en hand) **alfabeties volgens spesifieke onderwerpe of breë kategorieë**, (bv. kategorieë van uitgawes, kliënte, produkte, dienste, personeellede of tipes dokumente soos brieve, kontrakte, ens.) georganiseer of ingedeel?

- Ja INDIEN JA, VERSKAF ASB 'N KOPIE VAN DIE LYS(TE)
- Nee

27 Word inligtingsbronne in enige van die stelsels (rekenaar en hand) **sistematises** (geklassifiseerd) georganiseer of ingedeel volgens 'n uitgewerkte **klassifikasiesisteem**?

- Ja INDIEN JA, VERSKAF ASB 'N KOPIE VAN DIE SISTEEM
- Nee

28 Dui asseblief aan wie verantwoordelik is vir die organisering van inligting binne die besigheid? (*Meer as een kan gemerk word*).

- Die eienaar/bestuurder
- Enkele personeellid wat na alle inligting omsien Posbenaming:
(bv. bibliotekaresse of liasseerklerk) _____
- Elke personeellid organiseer die inligtingsbronne waarmee hy/sy self werk
- 'n Eksterne inligtinguskonsultant
- Ander (spesifiseer asseblief)

29 Is daar 'n behoefte aan 'n eksterne inligtinguskonsultant vir een of meer van die volgende dienste? (*Dui u antwoord aan volgens die onderstaande skaal*).

1 Geen behoefte	2 Klein behoefte	3 Gemiddelde behoefte	4 Groot behoefte	5 Baie groot behoefte
--------------------	---------------------	--------------------------	---------------------	--------------------------

- Advies oor die organisering van inligting aan personeellede
 - Opleiding van personeel oor hoe om inligting te organiseer
 - Die organisering van inligting in die onderneming op kontrakbasis
 - Ander (spesifiseer asseblief)
-
-

Appendix B

RESEARCH PROJECT ABOUT THE ORGANISATION OF ELECTRONIC INFORMATION IN SMALL, MEDIUM AND MICRO ENTERPRISES (SMMEs)

The project

The above-mentioned research project is being undertaken by a team consisting of Dr Martin van der Walt and Masters students of the Department of Information Science of Stellenbosch University. The focus of the project is on how **electronic** information resources are **organised**. The project is funded by the University and the National Research Foundation. We are looking for enterprises that are willing to provide information about their information resources and information systems.

Which enterprises are suitable for participation in the project?

Enterprises satisfying the following criteria will be suitable for the purposes of the research:

- Maximum number of staff: 99
- Maximum annual turnover: R40 million
- A variety of electronic information resources. These resources can include **internal documentation** such as staff manuals, financial records, customer records, marketing material, production figures, reports, correspondence, etc., as well as **external sources** such as price lists and catalogues of suppliers, email from customers, information about the industry, documentation of an industry association, information from a government body, etc. Some of these may be printed sources, but a substantial number have to be in **electronic form**.
- One or more systems for **organising** the information resources. This can simply be a system of folders for files and email on a personal computer and/or network server, or a database, e.g. of customer information, or a more sophisticated system such as a corporate intranet, document management system, management information system or decision support system.
- The enterprise must be willing to allow the researcher to examine the structure of the system(s), e.g. the list of folder names in Windows Explorer and the structure of tables and records in a database. We are not interested in the factual information stored in the system, but only in the way it is organised. Any sensitive information about the enterprise that comes to our attention by chance will be treated as confidential.

What is in it for enterprises that participate?

We are willing to give, during the course of the visit, free advice (up to a maximum of 1 hour consultation time, and within the limits of our present knowledge!) about the organisation of information resources to enterprises that provide us with information about their information systems. Feedback about the results of the research can be given at a later stage if required. More extensive advice about individual systems can perhaps be offered later on the basis of consultation at a fee.

Thank you very much for your cooperation.

Dr MS van der Walt

6 May 2002

Appendix C

Folder structure of an Architect

- D:\word
 - Amds
 - Client Architect agreement
 - Dienstkontrakte
 - Templates
 - Briefhoof en faks
 - Letters of acceptance
 - Logos
 - Presensielyste
 - Rekeninge
 - Sertifikate
 - E-mail
 - Kantooradmin
 - Amds
 - BTW Opsommings
 - Projekte
 - Werkskontrakte
 - Briewe
 - WVF & SDR
 - Kuruman Skool
 - Projekte
 - Rekeninge
 - Rotary
 - Skedules
 - Spesifikasies
 - Templates

Appendix D

Folder structures of a Graphical design company

Flexisign (*Folders for name designs*)

- ACW
- Algemeen
- Algemene Tekens
- Aluminium bordjies
- Balju
- Boere
- Dokters
- Gastehuise
- Hospitale
- Kerke
- Kooperas
- logos
- Motor+fiets logos
- Munisipaliteite
- Myne
- Nommerplate
- Padteken
- Persoonlik
- Polisie
- Politieke Partye
- Poskant
- safety
- Sake Ondernemings
- Sandblasting
- Skole
- Sportklubs
- Staatsdepartemente
- Utra treads
- Vlot

 Data Corel (*Own designs in Corel Draw*)

-  Boerderye
-  Coke Baniere
-  Data10 GIG
-  Dokters
-  e-mail
-  Fotos
-  Inter Tekens
-  Kerke
-  Kooperasies
-  LOGOS
-  Motorfiets Kar
-  Munisipaliteite
-  Myne
-  Nasionale parke
-  Omni Print Werk
-  Persoonlik
-  Plakkies
-  Politieke Partye
-  Sake-Ondernemings
-  Sandblasting
-  Scans
-  Skole
-  Sportklubs
-  Staatsdepartemente

MS Works (*MS Works files*)

Clipart

IT

ADS

Afleveringsdatums

Bemarkings briewe

Briewe

Creditors

Database

Handleidings

Invorder

Kwotasie

Besighede

Boere

Dokters

Garages

Kerke

Privaat

Skole

Omsendbriewe (pers)

OMSET

Personeel

Primakoers skedule

Spread sheets

Vorms

Werkbeskrywings

Msworks.cbt

NDT

Notules

Omni Print

Bestuursverslae

Briewe

Aanmanings

- Invorderingsbriewe
- Krediteure
 - Vorms
- Kwotasies
 - Besighede
 - Boere
 - Dokters
 - Garages
 - Kerke
 - Privaat
 - Skole
- Kwotasies van verskaffer
 - Taylormade
 - Thyron
 - Trans Oranje
- Omset
- Personeel
 - Salarisse
- Unzip
- Voorraadstate
- Samples
- Setup
- WKSTMPL

Appendix E

Folder structure of an Auditor

- ❑ Data on Linuxbox (L:)
 - ❑ Apps
 - ❑ Cobol
 - ❑ Document
 - ❑ Far
 - ❑ Login
 - ❑ Lotshare
 - ❑ Lotus
 - ❑ Mail
 - ❑ Norton Anti Virus
 - ❑ Pastel3w
 - ❑ Pastel4
 - ❑ Pastel5 (*Using given client numbers folders are created for all information, e.g. 100, 2010a*)
- ❑ Tiksters
 - ❑ Algemeen
 - ❑ Bestuur
 - ❑ Finstate
 - ❑ Algemeen
 - ❑ Ander
 - ❑ Bk
 - ❑ Boere
 - ❑ Excel
 - ❑ Algemeen
 - ❑ Bestuur
 - ❑ Bk
 - ❑ Boere
 - ❑ Individu
 - ❑ Mpy
 - ❑ Trust

└── Venoot

└── Mpy

└── Kalahari oos

└── Kalahari wes

└── Kliente.dok

└── Ooreenko

└── Program

└── Tariewe

└── Telefoon

└── Vorms.alg

└── Vorms.wr

└── Urb

└── Users

└── Wrade

└── Xpress

└── Pastel52

└── Pastel60

└── Pmail

└── Profsoft

└── Public

└── S6admin

└── Sol64

└── Tiksters

└── Urb

└── Users

└── Wrade

└── Xpress

Appendix F

Folder structure of a Stationery and Gift shop

My Documents?

Attachments

Debiteure Rekons

Lucinda

My Pictures

NCE

PA Krediteure

PA Tender

Personeel

Appendix G

Folder structure of a Computer sales company and Internet cafe

My Documents

(All documents are at first, stored here and then moved to the right folder)

Atlantic Sales

Drivers

E-mails

Besigheid

Persoonlik

Pryslyste

PCS Boekhouding

PCS Computers

Advertisements

INET

Invoices – Tax

Letters

Monthend Invoices

Nommers

Notes

Orders

Payments

Price List

(Every supplier is given their own folder)

Quotes

Reports

Skuld

Templates

Printer

Studies

Templates and Covers

Utilities

Work Software

Appendix H

Folder structure of a training and education centre

- E:/ (Server)
 - ! D F H
 - ! E-Mails
 - ! S R G
 - ! SENT E-MAILS
 - ! TRAINING
 - ^COMPANY PROFILES
 - EDUMED
 - EDUMED ADMIN
 - EDUMED C DRIVE TEMP
 - EDUMED COURSE MATERIAL
 - Boeke
 - Boeke 2001
 - Level 1
 - Level 2
 - Level 3
 - Vlak 1
 - Vlak 2
 - Vlak 3
 - Xhosa
 - Notas
 - AIDS
 - Brandbestryding 4
 - Brandbestryding 8 Afr
 - Brandbestryding 8 Eng
 - Brandbestryding Algemeen
 - Buddy Afd A & E
 - KPR A & E

- ❑ Ongeletterd
 - ❑ Refreshers A & E
 - ❑ Sport Afr
 - ❑ Sport Eng
 - ❑ Varia
- ❑ Vraestelle
 - ❑ Brandbestryding
 - ❑ KPR
 - ❑ Vlak 1
 - ❑ Vlak 2
 - ❑ Vlak 3
- ❑ Instructors
- ❑ Marelize
- ❑ S.H.E.
- ❑ Sales Team current
- ❑ Sales Team previous
- ❑ SHE Admin
- ❑ SHE pro
- ❑ Thuvia
- ❑ Training
- ❑ Wilna
- ❑ ^GRAPHICS & PICTURES
- ❑ 4027cl
- ❑ ABACK
- ❑ Codriver
- ❑ Corel
- ❑ CorelDRAW9
- ❑ DATABASES
- ❑ DCTMaps
- ❑ Drivers Backup
- ❑ Exact
- ❑ FONTS
- ❑ hpofficejet

- InTouch
- MAN
- MAN3000
- Minolta
- NAV95
- NCDTREE
- OFFICE
- PAS60
- Paywin
- pmw
- printserver
- Symantec
- Temp2
- virusdata
- VSCAN
- wages
- win95
- Winzip
- Zpastelbackup

Appendix I

The file structure of a roof construction enterprise

Appendix I

Folder structure of a roof construction enterprise

- C:/
 - Admin
 - Bank
 - Rekonstruksie
 - Voorlegging
 - Fakte
 - 2002

(Invoices of every year are stored in folders carrying the name of the year)
 - Inkomste
 - Koeverte
 - Korrespondensie
 - Kwotasie
 - 2001 *(Quotes of every year are stored together in the following folders)*
 - Ander (bv. grasverkope)
 - Nuwe dakke
 - Onderhoud
 - Ontwerp
 - Briefhoofde
 - Visitekaartjies
 - Nota & Etikette
 - Sertifikate
 - Vorms
 - Ouditeure
 - Pryslyste
 - State
 - Uitgawes
 - Waarborge
 - Bemarking
 - Depot
 - Gras

Appendix J(i)

Proposed folder structure for SMMEs

00 Forms and formats

(Here are classed all documents that are used as templates. Documents pertaining to a specific subject should be classed in the subject, e.g. manual of a product should be placed under the product)

Correspondence

Coverpages

Envelopes and labels

Faxes

Letters and letterheads

Publications

Agreements

Certificates

Contracts

Manuals

Reports

02 General Management

(Here are classed all documents on general management)

Administration

Buildings

Equipment

Clients

(Class here general information about clients, e.g. contact information, agreements)

Competitors

(Class here general information about competitors, e.g. products, clients, etc.)

Government

Laws and regulations

Project management

Strategic management

(Class here information on strategic management, e.g. strategic planning)

05 Financial management

Auditing

(Class here information about auditors, audit reports)

Budgeting

(Class here information on income, financial planning, financial statements, and turnover according to the year, e.g. 2000)

Creditors

(Class here specific information about creditors according to the name of the person or company, e.g. Smith,J)

Debtors

(Class here specific information about debtors according to the name of the person or company, e.g. Smith,J)

Quotations

(Class here specific information about quotations according to the date of the quotation, e.g. 2003)

Taxes

Tenders

07 Production

Products

(Class here information on products and services, e.g. names of products)

Product design

(Class here information on product design subjects, e.g. specifications, design software)

Product maintenance

Production cost

Production materials

(Class here information on raw materials, e.g. grass, poles, etc.)

08 Purchasing

Ordering

Stock control

Suppliers

 Contact information

 Schedules

(Class here information on delivery dates)

10 Marketing and sales

Market research

Market trends

Marketing strategy

Promotions (marketing)

Advertising

Gifts

(Class here information on guarantees, warranties, competitions, etc.)

Sales

Price lists

Sales figures

12 Human resource management

Conditions of employment

(Class here general information on the different aspects of conditions of employment, e.g. regulations, leave of absence forms, etc.)

Absence

Discipline

Grievances

Leave

Performance appraisal

(Organise here information on the evaluation of personnel)

Personnel records

(Organise here all information about specific personnel according to the name of each staff member, e.g. contact information, skills, days absent, etc.)

Promotions (work)

Recruiting

Applications

Interviews

Job specification

Remuneration

Benefits

Salary and wages

Training

(Class here information on training subject, e.g. programmes, methods, etc.)

Appendix J(ii)

Subject index of the folder structure

Subject	Main class number
Absence	12
Accounting	
See Creditors	05
Debtors	05
Accounts	
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