# CHAPTER 5

# TYPES OF LOCATIONS FOR SMME's

*"Probably the most important management fundamental that is being ignored today is staying close to the customer to satisfy his needs and anticipate his wants."*

(Peters & Waterman, 1982: 156)

## 5.1 INTRODUCTION

As discussed in the previous chapter, one of the first steps in choosing a site is to describe the ideal location by developing two lists – required criteria and desirable criteria. *Required criteria* are those that must exist; if the location does not have all of the required criteria it should not be considered as an option. The *desirable criteria*, however, are those that you would like to have but they are not essential for the success of the business. As was seen in the previous sections, each industry has location factors that are unique; factors that are important for a retail site are often irrelevant to a manufacturing firm. Also zoning laws are a factor for any business and should be researched early in the site selection process. These laws are established by communities and local governments to control the type of businesses that are opened and to insure that the community development occurs in a well-planned manner. If a site is not zoned for the type of business the entrepreneur wishes to open, the local government will determine if the property should be rezoned to the new classification. (All the detail regarding re-zoning

and local government regulations are being discussed in Chapter 8 as well as in the Appendixes).

Because of these two aspects, it is of vital importance to look at the different types of locations for SMME's. Within each of the following categories there might be more additional classifications and categories, but for the purpose of this study, the researcher will focus on the following main types of locations for SMME's:

- central business district (CBD);
- shopping centres / malls;
- office blocks;
- industrial parks;
- home-based businesses;
- telecommuting businesses;
- residential-based businesses.

## 5.2 CENTRAL BUSINESS DISTRICT (CBD)

The CBD is often the oldest area of a city, and decay and urban blight may have caused a retailing flight to the suburbs. Many CBD's have undergone a process of gentrification in which old buildings are torn down or restored with new offices, housing developers and retailers. (Levy & Weitz, 1992: 323).

Mixed-use developments (MXD's) are shopping cents that have office towers, hotels, residential complexes, civic centres, and convention complexes on top or attached to the shopping area. MXD's are popular with businesses because they bring additional customers to their stores (Levy & Weitz, 1992: 324).

The CBD can be a viable site for many businesses. Proponents of the central place theory would argue that the CBD has potential due to its size - a cluster of

business establishments draws people to the area. People must also go to the area for work. It also has its drawbacks. Businesses are less attracted to CBD's because higher security is required, shoplifting can be more common and parking is often a problem. Since many CBD's have not been fully renovated, high crime rates and urban decay can discourage shoppers from the suburbs. Shopping in the evenings and on weekends can be particularly slow in many CBD's (Levy & Weitz, 1992: 325).

## 5.3 SHOPPING CENTRES / MALLS

From the 1950s through the 1980s, business declined in many CBD's, while suburban shopping centres grew as population shifted to the suburbs. The centres take two basic forms. Smaller centres, known as strip or ribbon centres, comprise several adjacent stores located along a major street or highway. Larger centres and speciality centres take the form of shopping malls, which are generally more planned than strip centres, have more pedestrian activity, and can be either open-aired or enclosed. Shopping centres contain anchor stores designed to bring customers into the centre. Anchors for smaller centres are usually grocery or discount stores such as Spar and Seven Eleven, whereas department stores usually anchor the larger centres (Levy & Weitz, 1992: 326).

Shoppers have demanded the convenience of shopping centres. Life in the suburbs has created a need for stores located within a short drive from home. Large shopping centres provide an assortment of merchandise that in many cases exceeds that of the CBD. Binding many stores under one roof creates a synergy that attracts more customers than if the stores were located in separate locations. Although planned shopping centres are an excellent site option for most businesses, they have some disadvantages. First, rents in malls are relatively higher than those of some free-standing and CBD sites. As a result retailers that require large stores may seek other options. Second, shopping centre locations

often limit retailers' flexibility. Shopping centre management may require uniform hours and may specify the size and type of exterior design. Finally competition within some shopping centres can be intense. It may be difficult for small speciality stores to compete directly with larger department stores (Levy & Weitz, 1992: 326).

- **Types of shopping centres:**

- *Convenience centre* - Include a convenience market, such as a 7-Eleven store and a liquor store. The trade area is small. Convenience centres are found in both in suburban locations and in densely populated high-rise apartment areas.

- *Neighbour centres* - Range in size from 8 000 to 30 000 square metres and include a supermarket and frequently a drugstore, home improvement centre, or variety store. The smaller centres often include apparel, shoe, camera and other shopping goods stores.

- *Community centres* - Contain a discount store or a soft-line department store as an anchor. Also included are a supermarket, a super-drugstore, a home centre, and 15 000 to 20 000 square metres of other convenience and shopping goods stores.

- *Power centre* - Open-air centres with three or more anchors and other stores that use price promotion as primary marketing strategy.

- *Regional and super-regional centres* - Include up to three department stores. The other tenants are more likely to be shopping or speciality stores rather than convenience stores. Super-regional centres are similar but have at least four department stores.

- *Speciality centres* - There are two types of speciality centres: the promotional or discount-anchored and the fashion oriented centre. The discount-anchored centre contains one or ore discount stores. The fashion-oriented centre usually contains a high quality department store as well as small boutiques.

- *Off-price and outlet centres* - Specialize in off-price retailers. Outlet centres developed in response to off-price centres and specialize in manufacturer's outlets-retailer owned and operated by a manufacturer.

- *Historical theme centres* - Located in a place of historical interest whereas theme centres try to replicate a historical place. These centres typically contain tenants similar to speciality centres, except their is no large speciality store or department store as anchors (Levy & Weitz, 1992: 335).

## 5.4 OFFICE BLOCKS

Office blocks are very market-orientated in the sense that they are being occupied by a very specific business. It is typically consultants, governmental employees, lawyers and other professionals that locate in office blocks. The building usually belongs to an individual company (like Anglo, Liberty, etc.) or pension fund who rents the office space to clients. It is usually the cheapest location, but has many disadvantages, of which no retailing facilities and infrastructure and the fact that office blocks are still usually found in CBD areas, are the two most important ones. Visibility and access are therefore important, but maybe not as high on the priority list as in the case of retail and other services.

Over the past two years (1998-1999), there was quite a decline in new office developments, meaning that sought after office locations became more scarce.

This also meant that because of the high demand and low supply in good locations, rent increased. It is estimated that office rent in prime locations will in the near future rise up to R150 per square meter per month (Muller, 1999: 44).

South Africa was until recently known as one of the cheapest countries for office space, but there have been a sharp increase in suburbs like Sandton in northern Johannesburg. Many suburbs' office space is now more expensive than in countries like Canada and South East Asia. But because of South Africa's poor exchange rate, many foreign investors therefore like the idea to rent office space in South Africa because of the money-saving effect (Muller, 1999: 38).

It must be stated that not many SMME's are locating in office blocks due to the nature of their business but purely out of a cost or ignorance nature.

## 5.5 INDUSTRIAL PARKS

A site analysis for a manufacturing firm is just as important as for a retail firm, but the criteria are very different. Because manufacturing firms usually require a large labour force, labour factors like the level of union activity, the average wage rates and the "work ethic" of the residents (absentee and turnover rates) are important criteria.

Manufacturers also often need to be located near their source of raw materials because transportation costs of these materials are very high. They use a high level of utilities and therefore access to those utilities is essential. Manufacturing firms also need access to a variety of transportation systems including rail lines, airlines, water/barge traffic and trucking.

Furthermore local taxes for manufacturing firms vary substantially among communities, and therefore should investigate the types of taxes that are assessed

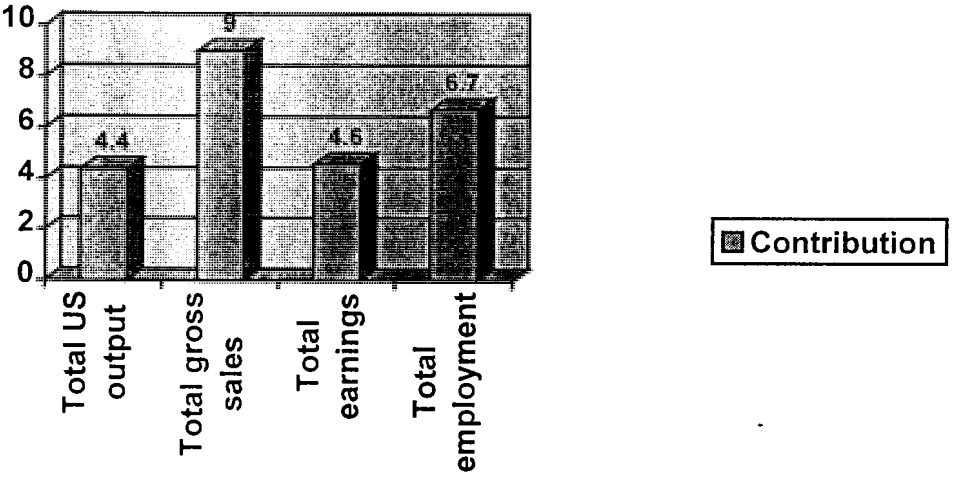
and the rates for each. Communities try to attract manufacturers that employ many people and offer tax abatements or reductions as an incentive to locate in the community. They also have to check environmental regulations since these laws may prohibit certain types of manufacturers from locating in certain areas (Lambing & Kuehl, 1997: 169).

## 5.6 HOME-BASED BUSINESS

According to the Department of City Planning (Verchuren, 1998) at the Pretoria City Council a home-based business is defined as the practice of an activity at a dwelling-place where the residents are living with the aim of deriving an income thereof. The home-based industry is an institution that has proliferated in recent years and the growth over the last four years in South Africa has been staggering. However, compared to countries like the United States and Britain, the home-based industry in South Africa is still minute and should continue to grow rapidly over the next few years.

Research conducted in the United States in 1994 showed that home-based businesses formed a significant component of the American economy. The study found that home-based businesses contributed 4,4% of the total output produced by all the American businesses (Figure 5.1). If indirect contributions are added, they contributed 9% of gross sales, 4,6% of total earnings and 6,7% of total employment (Mehta, 1994: 19).

**Figure 5.1: Contribution of home-based businesses as a % of all US businesses**




**(Source: Mehta 1994: 19)**

According to Lambing & Kuehl (1997: 52) the increase in home-based businesses has occurred for several reasons. First, the electronic revolution, with the development of computers and fax machines, has made working at home possible. Second, massive layoffs at corporations have resulted in many people seeking financial security through self-employment. Lastly, the increasing demand for service businesses has made home-based-businesses possible, since location is not important if the entrepreneur goes to the customer's location (in the United States 70% of home-based businesses are in the service industry).
Other important factors include the economic advantages, travelling expenses, time and changing lifestyles (the desire to combine a career and a family).

Many developments in the economy and technology have opened the door on a broad array of new home-based-based occupations. Add in the financial rewards, tax benefits, and more, and it's plain to see that it pays to work at home. Kishel & Kishel (1991: 1) mention the following benefits of a home-based business:

- ***Personal freedom*** – The ability to gain control over one's life is perhaps the most exiting aspect of a home-based business. Rather than bending to the demands of the work environment, individuals can mold their environments to meet their own needs.

- ***Financial benefits*** – The financial benefits of working at home are equally attractive. Instead of waiting for top management to give you a raise or promotion, the amount of money you can earn is directly related to your own performance.

- ***Tax savings*** – Using your home as a place of business offers a number of tax advantages. For starters, it allows you to deduct a part of the operating and depreciation expenses on your home. This means that a percentage of your rent or mortgage payment, depreciation, property taxes, insurance, utilities, and expenses for household maintenance, repairs or improvements are deductible.

- ***Family togetherness*** – In many instances, home-based businesses are strengthening family relationships by enabling the whole family to get involved. Instead of going in separate directions, more and more husbands and wives are pooling their energies and working towards a common goal. At the same time, children have an opportunity to see what their parents do for a living…and to learn about business firsthand.

- ***Reduced stress*** – Electing to work out of your home can go a long way toward reducing stress, particularly the stress that comes from trying to juggle the demands of your work life with those of your private life. Things like office politics and arguments among co-workers (two well-known causes of stress) can be eliminated by working at home.

- ***Job enrichment*** – One of the benefits most frequently mentioned regarding home-based businesses is job enrichment. Unlike the typical worker, who is boxed into one job and given a label identifying him or her as a bookkeeper, plumber, attorney, manager or secretary, the home-based businessperson is free to learn and perform a variety of work-related tasks. Working at home allows you to devote the entire day to one activity or to a succession of activities. Varying your activities like this and working at a pace that is natural for you helps to ensure that you will not get bored. Instead of going through the motions of performing a task, there is a feeling of involvement. And since everything you do is directed at making your business a success, you will experience a sense of excitement.

- ***Increased productivity*** – Home-based entrepreneurs generally agree that working at home helps them to be more productive. Part of the reason for this is that there is simply more time available. Hours that would normally be spent commuting can be used to run the business instead. Another reason that cannot be overlooked is the increased level of enthusiasm on the part of home-based workers. Many get so caught up in what they are doing that it is actually hard for them to stop.

- ***Competitive advantage*** – Working out of your home can enable you to be more competitive, not just in the prices you charge but also in the quality service you offer. You can use the money you save on rent for example to increase your overall profitability, or you can pass it on to customers in the form of lower prices. Competitors restricted by higher overhead costs have no such options. Having your business in your home also makes it easier to provide customers with personal service.

Sheedy (1994: 2) mentions the following disadvantages of home-based businesses:

- ***Monetary risk*** – Sooner or later, cash has to go on the line and you will have to risk capital. This is probably the major reason why many people will not start their own home-based business.

- ***Pressure to perform*** – The flip side of being your own boss is that you are on your own. This responsibility can weigh heavy if you routinely depend on others to help you out.

- ***Expert in variety of tasks*** – many tasks must be accomplished in a home-based business – sales, record-keeping, inventory, finance and management to name a few. To be successful, you should develop competence in each of them. Running a successful business is a continuous learning experience.

- ***Difficult to leave work behind*** – many people who work at home find it impossible to turn off the lights on their business. The time they gain from not commuting to work can be easily forfeited by staying too long at their desks.

- ***Irregular income*** – Business has it ups and downs. Unfortunately the home-based businesses' income can follow the same pattern. In the early stages particularly, sacrifices like holidays, company benefits and a fixed income would have to be made.

- ***Loneliness and isolation*** – the feeling of being "cut-off" can be a real stumbling block if you do not take steps to handle it. Planning an active network of business associates, such feelings can be beaten. Most homepreneurs do have to take action to overcome the sense of isolation.

- ***Motivation difficulties*** – It can be too easy to linger over morning coffee, putter in the garden, or go to the driving range. Lack of motivation can starve the fledgling enterprise. Motivation is an inner resource that relies on strong desire to meet your goals.

- ***Business may stay after hours*** – Some home-business people are burdened by customers twenty four hours a day. Many customers believe that if you are working at home, you are available around the clock. They think nothing of calling well into the evening. This problem can be handled, but it will take some discipline and planning on the entrepreneur's part.

## 5.7 TELECOMMUTING

It is generally agreed that telecommuting and home-based businesses are different animals. Only people employed in certain occupations can telecommute, for example, most manufacturing or maintenance workers cannot. Telecommuting typically involves a narrow range of information-related, computer-supported applications. With some exceptions, the employee's needs generally are defined by the technological dependence of their work. The requirements are virtually the same for a programmer, a customer service representative, an engineer, a technical writer or any other information worker. Telecommuting is a marker with relatively clear needs and readily identifiable customers (Kocher, 1993).

It is quite clear that the term telecommuting is not one that is clearly defined and it is often used to encompass a number of different styles of work. Gray *et al.* (1995) define telecommuting as "a flexible way of working which covers a wide range of work activities, all of which entail working remotely from an employer, or from a traditional place of work, for a significant proportion of work ***time***" (Hobbs & Armstrong, 1998).

Telecommuters are also seen as corporate employees or contractors who, in lieu of commuting to a work site, perform company tasks from their homes on company time. A true telecommuter, by strict definition, uses electronic means to transfer work between home and office. Some experts apply the term more broadly to cover any worker who uses the home as an extension of the employer's work on the employer's time (Bacon & McKee, 1989).

Furthermore telecommuting is also defined as the ability of workers to either work out of their homes or to only drive a few minutes and reach a complex in their immediate neighbourhood where, through advanced communication and computing support provided by the "landlord" of the complex, they can access their corporate computing resources and undertake work (Eldib & Minoli, 1995).

Preliminary demographic and incidence level surveys conducted with Yankel Partners identified approximately 15 million full-time home-based businesses. Part-time self-employed people account for another 7 million households. The survey also found that 8 million telecommuters work at home one or more days per week during business hours, while 24 million people bring work home at least twice a month.

There are also 11 million moonlighters – people who are employed full-time outside the home in more than one job (Kocher, 1993). More specifically, home-based workers fall into four categories:

- the overtimers
- telecommuters
- moonlighters
- home entrepreneurs

For years, senior managers belonged to the first group, lugging work home on evenings and weekends. Now many of them have entered the second group, doing their work home during regular office hours and relaying it back to office by fax and modem (McCullough, 1992).

The driving forces that have motivated telecommuting are unlikely now to be halted. Vehicular traffic congestion will continue to increase, respect for the environment will grow and companies will need to attract higher quality staff, improve customer service and reduce costs. Gray *et al.* (1995) predicts 35 million telecommuters in the USA and 10 million in the UK in the year 2010. However, rather than a sudden change, it is more likely that there will be a gradual, evolutionary change in working practices as a long-term consequence of the information technology revolution. In all probability telecommuting will increasingly be absorbed into the mainstream of normal working practice. The current distinctions between home-working, tele-centre working and office working will begin to blur. More flexible, location-independent working practices will emerge. It will become accepted practice for workers to spend part of their time working outside the traditional office.

Cost and time-savings can be achieved through telecommuting by reducing the need for centrally maintained offices in expensive locations and reducing ***time*** wasting with less travelling. Gray *et al.* (1995) and Heap (1995) find telecommuters to be more productive than office-bound staff who have to travel to work and tend to suffer a higher level of stress. Telecommuting is generally regarded as a "green" activity, primarily because of the reduction in travel, the consequent fuel savings and lessening of pressure on congested city centres and overstretched public transport.

The growing popularity of telecommuting also can be attributed to the fact that, by all accounts, it works. By using technology to move information, rather than using people, employers can cut office expenses, save energy and respond to their

employees' changing lifestyle needs. However, the most beneficial reason for implementing a telecommuting program is increased employee productivity by means of saving and utilizing time much more efficiently. The only problem of this time-efficient tool is that not many organizations have realized the immense influence it could have on their business.

## 5.8 RESIDENTIAL-BASED BUSINESS

According to Standard Bank's Small and Medium Enterprises Department (1999), a residential-based business is a residential property in a residential area converted to commercial use and purpose built units whether freehold or sectional title. Converted residential properties will need to be in an area zoned for commercial use or have consent use status granted by the municipality (Standard Bank, 1999).

The most important characteristics regarding the nature and extent of home-offices are as follows (Van den Berg, 1983):

- In contrast to a home-based business, there are no people living in a residential-based business. It is used specifically just for business purposes.

- Residential-based businesses seem to be found mainly in higher socio-economic status class residential areas (in contrast to home-based businesses), close to the CBD and tend to be more prevalent in the older residential areas. Public orientated residential-based enterprises, that is residential businesses which provide a direct service to the public, e.g. those of veterinary surgeons, dentists, medical doctors and lawyers, tend to be spread throughout residential areas, whilst non-public orientated residential businesses, which do not provide a direct service to the public,

e.g. those of engineers, town planners, architects and land-surveyors, tend to be grouped close to the CBD.

- Residential-based businesses seem to originate mainly in business areas, show an increase in number and in most cases regard their occupation of residential offices to be of a permanent nature.

- The condition of buildings occupied by residential offices appears to be generally better than that of their environment (Van den Berg, 1983).

Barnard (1997: 18) mentions that more and more enterprises are moving from the CBD areas and shopping centres to residential properties in upmarket suburbs. This also applies to new businesses. Most of these businesses are service industries and organisations that provides a personal service or product to the public and is less retail related. There is therefore not a high amount of influx from clients in these areas. The main reasons for these moves are attributed to bad economical conditions, increased urban violence, vandalism and overall higher costs.

Some advantages of residential-based businesses are (Barnard, 1997: 18):

- Purchasing of the property as an asset.
- Budgeted rent premiums being paid on the property (in the case where the property is purchased).
- Bond premiums are usually lower than rent premiums because of the bond period.
- Saving on current expenditures, for example rent, electricity, etc.
- Probability of renting a part of the property to other enterprises (potential income).
- Probability of developing an exclusive image, identity and visibility.
- Lay-out of the business are not restricted to space or change.

- Parking for customers and employees are more comfortable and available.
- Expansion probabilities are less restricted.
- The property (asset) as part of the business increases the resale value.

Residential-based businesses have become a very visible feature of some main road arteries into and out of Pretoria, the administrative capital of South Africa. Previous residential zoned properties are being used to such extent for business purposes that certain main routes into the city centre have now virtually lost its residential character. This phenomenon is happening all over the world in especially the major cities and towns (Barnard, 1997: 18).

Even though home-based businesses is not new to South Africa – some 1,8 million people run some form of business from home – however, the purchase of a residential property and then rezoning it for business use in some specific areas seem to be a new phenomenon. Because of this new important trend in South Africa's small business market, it is important to investigate this phenomenon in more depth and then not only evaluate, but also develop a framework for entrepreneurs on how to start such a business with a residential-based location and manage it successfully. The rest of this study therefore investigated empirically this new phenomenon with the results, recommendations and framework to follow.

## 5.9 SUMMARY

Chapter 4 investigated the literature on the location-decision for small, medium and micro enterprises (SMME's) with the purpose of researching the different modules and methods of new locations and relocations. All the important theories on this specific topic has been discussed and also how the search for the best location is being done.

All of the different location factors that play a role in this important decision has been discussed, as well as how they can be evaluated with a few practical calculations.

In Chapter 5 all the different types of locations for SMME"s were discussed in detail, namely, CBD (central business development), shopping centres (malls), office blocks, factories, home-based businesses, telecommuting and residential-based businesses. The study particularly compared the different types of locations and emphasized the importance of the newest trend in location, namely the residential-based business.

Preliminary interviews with entrepreneurs and small business owners of these residential-based businesses would indicate that it is an alternative location to especially shopping centres and office blocks. It would appear that the classic "location, location, location!" has become an impossible dream for SMME's in the "mom-and pop-store" group. They are often harassed by landlords and / or cannot afford the rentals charged or cannot comply with certain aspects of the lease agreement.

The exploratory research that follows into this phenomenon of residential-based businesses will therefore clarify all problems as well as advantages of this location-decision with the main purpose of developing a framework for residential-based businesses as an alternative location-decision for SMME's. (The rezoning laws and other rules and regulations of the local authorities will also be included in this framework.) In Chapter 6 the research methodology is now being discussed.

# CHAPTER 6

# RESEARCH METHODOLOGY

*"A plan well defined is half solved."*
(Churchill, 1996: 80)

## 6.1 INTRODUCTION

The term methodology refers, according to the Collins Dictionary (1995), to "the system of methods and principles used in a particular discipline", which in the case of this study is the methods and principles used in the research. The term methodology is also closely related to the term epistemology, which comes from the Greek word epistêmê which, is their term for knowledge and is the philosophy of how we come to know.

While methodology is also concerned with how we come to know, it is much more practical in nature and is focused on the specific ways or the methods that we can use to understand our world better. "Epistemology and methodology are intimately related: the former involves the philosophy of how we come to know the world and the latter involves the practice" (Trochim, 1997).

This chapter aims to provide an insight into the practical ways and methods that were employed in gathering the information for the empirical part of this study. The universe and sample frame will be discussed as well as the sample method and size. Next, the method of data collection and questionnaire design is

described. The last part of the chapter concerns the data processing, analysis and evaluation of results.

## 6.2 DEFINITION OF PROBLEM, OBJECTIVES AND DATA REQUIRED

### 6.2.1 Problem definition

The definition of the problem to be researched is, according to the American Marketing Association (AMA), the most important step in a research project (Martins, Loubcher & van Wyk, 1996: 82) and also one of the most difficult (and least discussed) aspects of research (Trochim, 1997).

The problem of this study was clearly defined in Chapter 1 and in short comes down to the location-decision that SMME's have to make in order to optimize their future business survival. This location-decision has several different factors as well as choices but the residential-based option as location has not really been researched in depth. There are very specific advantages and disadvantages of this location-decision and the purpose therefore of this study is to evaluate and investigate residential-based location as an alternative location-decision and therefore develop a framework for future entrepreneurs to consider this location option.

### 6.2.2 Objectives of the study

The primary objectives of this study are:

- To measure the effectiveness of residential-based business as location for SMME's.

- To suggest specific actions and recommendations for a successful residential-based business.

The secondary objectives of this study are:

- To measure what kind of SMME's are likely to make a success of a residential-based location.

- To measure the influence and problems perceived from the local authority regarding a residential-based business.

- To measure the advantages and disadvantages of a residential-based business versus a business in a shopping mall / centre / office block.

- To measure the growth of residential-based businesses.

### 6.2.3 Data required

- *The universe*

The first step in the sampling process is defining the universe (Sudman & Blair, 1998: 334). The universe or population is the total group that is studied (Blankenship & Breen, 1993: 167) and is the aggregate of all the elements (Martins et al, 1996: 251).

According to Sudman & Blair (1998: 334), the first step in defining the population is to define the population units. Trochim (1997) notes that it is very important to define the unit of analysis, which refers to the major entity that you are analysing

in your study. According to him, the analysis you do in your study determines what the unit is and not the sample you are drawing.

In the case of this study, the population unit is individuals (entrepreneurs) while the unit of analysis is the specific SMME being investigated.

The next step in defining the population is to determine the population boundaries (Sudman & Blair, 1998: 335), which, in the case of this study, will be small, medium and micro enterprises running a business from a residential property.

- *The sample frame*

Once the population is defined, the next step is to obtain a frame of the population (Sudman & Blair, 1998: 338). "This is a record of all the sample units available for selection at a given stage of the sampling process" (Martins et al, 1996: 252). The availability of a sampling frame is one of the most critical factors in determining a sample design. "If such a frame is available, the task of sample selection is significantly reduced. If no frame is available, researchers will essentially need to construct their own frames, a difficult, costly, and time-consuming task" (Sudman & Blair, 1998: 338).

The sample frame that was used in this study is the SMME's operating on residential properties in the Pretoria Metropolitan area, especially the main arteries namely Schoeman, Pretorius, Duncan, Charles, Soutpansberg, Zambesi and other streets.

Sudman & Blair (1998: 338) identified three ways in which the sample frame may differ from the population:

- The frame may contain ineligibles or elements that are not part of the population;
- the frame may contain duplicate listings; and

- the frame may omit units of the population, which is by far the most serious problem.

Sudman & Blair (1998: 338) provides three solutions to the problem of omission. Firstly, you can ignore the omissions from the frame and accept the possible biases that result. Secondly, you can discard the frame and use a different frame or generate a new frame. Thirdly, you can use the frame, but combine it with another frame.

It is possible that biases could exist between the opinions of members of the sample frame and population. It is however assumed that the opinions of the sample frame used represents the opinions of informed entrepreneurs / managers / owners of residential-based businesses in South Africa. It was thus decided to accept the possible biases and to make use of this particular sample frame.

- *Sampling method and sample size*

Due to the smaller population of this study, it was decided that personal interviews would be used to do the sampling. Professional fieldworkers were utilized and over a period of two months 200 residential-based businesses were questioned with a success rate of 144 completed questionnaires, which accounts for a 72% success rate.

There are real advantages and clear limitations to personal interviewing of which the greatest value lies in the depth of information and detail that can be secured. It is on the other hand very costly, in both money and time terms. But for the purpose of information gathering, the personal interview is a very effective sampling tool (Cooper & Schindler, 1998: 291).

Mail surveys were not conducted for obvious reasons as Dillon, Madden & Firtle (1987) promptly note that mail surveys must be considered as nonprobability or

convenience samples due to its typical low response rates. Lockhart & Russo (1994: 144) suggests that non-respondents to mail surveys could feel that they do not know enough about the topic of the survey. In some instances this non-response bias is good because subjects disqualify themselves based on the relevance of the topic of the survey to them while in other instances this could result in surveys that are not representative of the sample frame.

### 6.2.4 Method of data collection

There is no simple answer to which of the available methods of data collection the researcher should use when collecting primary data. It all depends on the purposes and nature of its use (Blakenship & Breen, 1993: 122).
It was decided to develop a questionnaire with structured as well as unstructured questions, which would be completed by either the correspondent or the fieldworker, depending on the correspondent's choice.

- *Questionnaire design*

The first step in the design of the questionnaire was to develop a preliminary questionnaire where all the questions were open-ended, unstructured questions developed from the initial research problem. This was done to assure that the research problem did really exist and that the study was going to contribute to the field of management science. This preliminary questionnaire was distributed among only 20 respondents of the same sample and evaluated against the objectives set out for the study.

The second step was to list the aspects of information obtained from the preliminary questionnaires and also that derived from the problem definition and research objectives and by means of that developed the final questionnaire.

- *Rating scales*

Scale types could be classified into four categories (Sudman & Blair, 1998: 448):

- *Ratio scale* variables have properties of order among scale points, equal distances among all adjacent scale points, and an absolute zero.
- *Interval scale* variables do not have the property of an absolute zero but have the properties of order among scale points and equal distances among scale points.
- *Ordinal scales* variables have only the property of order among scale points.
- *Nominal scales* are simply names for the categories and do not have the property of order among them.

The scale types used in a survey after the applicability of the various summary measures as described in table 6.1.

**Table 6.1 – Scale types**

| **Scale type** | **Mathematical Properties** | **Applicable Summary Statistics** |
|---|---|---|
| Nominal | None | Mode |
| Ordinal | Order | Median |
| Interval | Order, equal intervals | All (mean, median, mode, variance, standard deviation, interquartile range) |
| Ratio | Order, equal intervals, absolute zero | All |

(**SOURCE:** Adapted from Sudman & Blair, 1998: 460)

A standard five-point Likert-scale, which is often referred to as a summated-ratings scale (Churchill, 1992: 405), was used in most of the questions to ensure consistency and ease of completion. A nominal scale was used for the questions on demographics, which were in the form of multiple choice questions with single answers.

Open-ended (unstructured) questions were also used to investigate the correspondent's personal views in regards to aspects like advantages, disadvantages and suggestions.

- *Testing of the questionnaire*

According to Sudman & Blair (1998: 300), there is always a chance that some questions could cause problems and questionnaire testing is needed to identify and eliminate these problems.

The questionnaire was tested by distributing a copy of the questionnaire to 10 respondents in different fields ranging form academics to entrepreneurs. Interviews were personally conducted afterwards with the respondents to determine the underlying weaknesses of the questioning and how to go about correcting them. The questionnaire was adapted after the pilot phase and some statements, which proved to be unclear, were deleted.

- *Data processing, basic analysis and evaluation of results*

The responses were directly captured from the questionnaire using software packages at the Department of Statistics at the University of Pretoria. Some basic calculations were made to check the reliability of the data. Finally the data was imported into the statistical software program where the final analysis and cross-tabulations were made.

- *Response rate*

A response rate of 72% (144 respondents from a total of 200 sent out) was realised.

- *Editing and coding*

According to Martins et al (1996: 295) *"editing entails a thorough and critical examination of a completed questionnaire in terms of compliance with the criteria for collecting meaningful data and in order to deal with questionnaires not duly completed*". All questionnaires, once received, were edited and checked for completeness and accuracy. Although it is quite legitimate for an editor to complete a missing answer (Martins et al 1996: 298), in this case however incomplete answers were not completed by the editor as it could bias the responses. Unsatisfactory parts of some questionnaires were discarded but in the case of a less than 70 % completeness of a particular questionnaire, the questionnaire was discarded in total.

Coding refers to the process whereby codes are assigned to the answers of respondents (Martins et al, 1996: 299). A coding frame was drawn up where every answer was coded in order to simplify the capturing of the data.

- *Data cleaning*

According to Sudman & Blair (1998: 428) the finished data file usually contains some coding and/or data errors that should be cleaned.

The first step is to calculate out-of-range values for every variable (Sudman & Blair, 1998: 429). A wild-code check was done by calculating the minimum and maximum values of each of the questions. Codes not in the data set were then identified and checked with the original questionnaire. Any wild-codes was then changed according to the original response on the questionnaire. The averages for all the questions in the questionnaire were also calculated which highlighted out-of-range values.

- *Data transformations*

Once the data have been entered it is almost always necessary to transform the raw data into variables that are usable in the analyses (Trochim, 1997). The following transformations were performed in this study:

- Reversal items were used in some instances to help reduce the possibility of a response set. In order to get all scores for scale items to be in the same direction where high scores mean the same thing and low scores mean the same thing, the ratings were reversed for these specific items.
- Scale totals: All scales were transformed from a seven point scale to a standarised 100-index.

## 6.3 ANALYSIS

### 6.3.1 Tables

The data was first analysed in tabular format. A standard set of tables was produced which included the average response for each item expressed in terms of the standardised 100-index (%). The average refers to the mean score for the item

expressed in terms of the standardised 100-index. In some instances the standard deviation was calculated to measure variation and is calculated as follows:

$\sigma = [\Sigma(x_i - \mu)^2 / N]^{1/2}$

where:

$\mu$ = the population mean; and

$N$ = the population size.

### 6.3.2 Validity and reliability

According to Martins et al (1996: 26), researchers often neglect to point out possible shortcomings and pitfalls in research results. Reliability and validity are a prerequisite for research data to be useful and is therefore important to be able to proof reliability and validity.

- ***Validity***

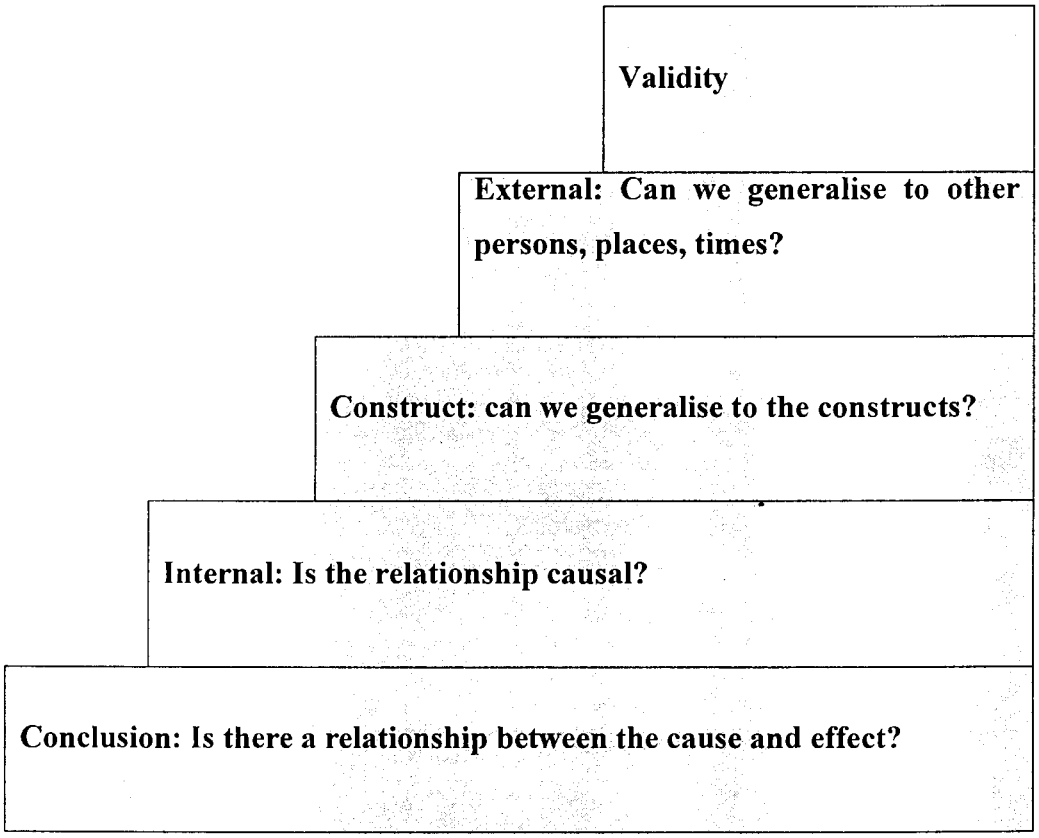
It seems that the term validity is a source of disagreement amongst authors. While according to Martins et al (1996: 26), validity applies to measuring instruments, and Bagozzi (1994: 18) is of the opinion that a measure is valid to the extend that it measures what it is intended to measure, Trochim (1997) notes that it is technically incorrect. According to him, measures, samples and designs do not have validity. Only propositions can be said to be valid. *"Technically we should say that a measure tends to valid conclusions or that a sample enables valid inferences, and so on. It is a proposition, inference or conclusion that can have validity"*

Putnam (1962: 379) defines validity as a law-cluster concept i.e. "*a group of interrelated ideas whose totality captures the essence of the phenomenon under consideration*" (Bagozzi, 1994: 18).

According to Trochim (1997) validity can be subdivided into four types which build on one another.

- *Conclusion Validity:* Is there a relationship in the particular study between the two variables?
- *Internal Validity:* Assuming that there is a relationship in the study, is the relationship a casual one?
- *Construct Validity:* Assuming that there is a causal relationship in the study, can we claim that the program reflected well our construct of the program and that our measure reflected well our idea of the construct of the measure?
- *External Validity:* Assuming that there is a causal relationship in this study between the constructs of the cause and the effect, can we generalise this effect to other persons, places or times?

**FIGURE 6.2 – The cumulative questions of validity**




**(Source: Adapted from Trochim, 1997)**

The theory of validity, and the many lists of specific threats, provides a useful scheme for assessing the quality of research conclusions. The theory is general in scope and applicability, well articulated in its philosophical suppositions, and virtually impossible to explain adequately in a few minutes. As a framework for judging the quality of evaluations it is indispensable and well worth understanding (Trochim, 1997).

- ***Reliability***

According to Trochim (1997) reliability has to do with the quality of measurement and refers to the amount of agreement between independent attempts to measure the same theoretical concept (Bagozzi, 1994: 18). It thus relates to the consistency of a method in its ability to yield reproducible results (Martins et al 1996: 26).

Bagozzi (1994: 18) distinguishes between two types of reliability. Internal consistency is obtained when two or more measures of the same theoretical concept are obtained at the same point in time and the agreement between the measures is ascertain. Test-retest reliability addresses the consistency of repeated measures of the same theoretical concept over time and can be estimated by the correlations between the measures across time (Bagozzi, 1994: 18). Trochim (1997), suggests four general classes of reliability estimates, each of which estimates reliability in a different way. Apart from the mentioned internal consistency and test-retest reliability, he adds inter-rater or inter-observer reliability and parallel-forms reliability.

- *Inter-rater or inter-observer reliability* is used to assess the degree to which different observers give consistency estimates of the same phenomenon while parallel-forms reliability refers to the assessment of the consistency of the results of two tests constructed in the same way from the same content domain.

- *Inter-Rater or Inter-Observer Reliability*. There are two major ways to actually estimate inter-rater reliability (Trochim, 1997). Firstly, if your measurement consists of categories – the raters are checking off which category each observation falls in – you can calculate the percent of agreement between the raters. The other major way to estimate inter-rater reliability is appropriate when the measure is a continuous one in which case you could calculate the correlation between the ratings of the two observers.

- *Test-Retest Reliability*. Although the correlation between the two observations will depend in part by how much time elapses between the two measurement occasions, one could imagine measuring the two measures at the same time, the error could be cut down considerably. This could be achieved, according to Trochim (1997) by:
  - measuring the instrument at two times for multiple persons;
  - computing correlation between the two measures;
  - assuming there is no change in the underlying trait between the first and second time.

- *Parallel-Forms Reliability*. This could be measured by administering both forms to the same people and getting the correlations between the two forms.

- *Internal Consistency Reliability*. One of the most common used measures of reliability is the Cronbach alpha coefficient (Bagozzi, 1994: 18) which provides a measure of internal consistency.

#### 6.3.2.1 Cronbach's alpha

According to Statsoft Inc. (1997), if several subjects who responded to specific items, the variance for each item could be calculated as well as the variance for the sum scale. The variance of the sum scale will be smaller than the sum of the item variance if the items measure the same variability between subjects, that is, if they measure some true score. Technically, the variance of the sum of two items is equal to the sum of the two variances minus (two times) the covariance, that is, the amount of true score variance common to the two items.

The proportion of true score variance that is captured by the items could be estimated by comparing the sum of item variances with the variance of the sum scale. The formula for calculating Cronbach's coefficient alpha ($\alpha$ ) is:

$\alpha = (k / k - 1)*[1-\Sigma(s_i^2)s^2_{sum}]$

where:

$s_i^2$ = the variance for the k individual items; and

$s^2_{sum}$ = the variance for the sum of all items.

If there is no true score but only error in the items (which is esoteric and unique, and, therefore, uncorrelated across subjects), then the variance of the sum will be the same as the sum of variance of the individual items.
Therefore, coefficient alpha will be equal to zero. If all items are perfectly reliable and measure the same thing (true score), then coefficient alpha is equal to 1. (Specifically, $1-\Sigma(s_i^2)s^2_{sum}$ will become equal to (k-1)/k; if we multiply this by k/(k-1) we obtain 1.)

Users of Cronbach's alpha have often wondered whether the reliability they have obtained are good. It is suggested that a reliable level of .70 will be enough on predictor tests or hypothesised measures of a construct (Nunnally, 1978: 245; Boulding, Staelin, Zeithaml & Kaita, 1993). It is however acknowledged that a minimum .90 should be tolerated in those applied settings where important decisions are made. It is thus suggested that a minimum of .70 for exploratory work and a standard .90 for advanced practice should be applied (Nunnally, 1978: 246).

Cronbach's alpha, when computed for binary terms, is identical to the so-called Kuder-Richardson-20 formula of reliability for sum scales. In either case, because the reliability is actually estimated from the consistency of all items in the sum scales, the reliability coefficient computed in this manner is also referred to as the internal-consistency reliability (Statsoft Inc. 1997).

The results of the Cronbach Alpha analysis are provided in the research findings in Chapter 7.

## 6.4 FACTOR ANALYSIS

Thurstone (1931) first introduced the term factor analysis. It is a generic name for a group of multivariate statistical methods whose primary purpose is to define the underlying structure of a set of variables and to reduce a set of variables, measures or items to a smaller set of common factors (Hair, Anderson, Tatham & Black, 1995: 366). It examines the relationship of each of a large series of variables with every other one to determine which are highly correlated with other ones. The process ends with a reduced number of packages of variables (Blankenship & Breen, 1993: 266).

Factor analysis calculates a series of factors that is a weighted combination of the variables being analysed. These combinations take the form:

$$F = w_1x_1 + w_2x_2... + w_kx_k$$

where $F$ is the factor $x_1$ through $x_k$ are the variables being analysed, and $w_1$ through $w_k$ are the weights applied to those variables. The weights for each factor and the various contributing variables, subject to a constraint that each factor is uncorrelated to all preceding factors (Sudman & Blair, 1998: 547).

The main applications of factor analytic techniques are firstly to reduce the number of variables and secondly to detect structure in the relationship between variables, that is to classify variables. Therefore, factor analysis is applied as a data reduction or structure detection method. The most common used in market research application is the principal component analysis (Sudman & Blair, 1998: 557) which will be explained briefly.

The extraction of principle components amounts to a variance maximising (varimax) rotation of the original variable space. For example, in a scatterplot we can think of the regression line as the original X axis rotated so that it approximates the regression line. This type of rotation is called variance

(variability) of the new variable (factor), while minimising the variance around the new variable (Statsoft Inc. 1997).

According to Sudman & Blair (1998: 548) the key descriptive results obtained from a factor analysis are the eigenvalues and factor loadings, while, in some instances factor scores are calculated. However in the case of this study, no factor scores were calculated.

Eigenvalues, which equals the sum of the squared loadings for the variables on that factor, provide a measure of the percentage of variance in contributing variables that is explained by the factor. The importance of the component or factor is measured by the size of the eigenvalue in relation to the total variance available for distribution. The next step is to find the component or factor independent of the first factor that will extract most of the remaining available variance. The remaining n-2 components are found in a similar fashion (Sudman & Blair 1998: 548).

Factor loadings, which is the correlation between the variables and the factors, is the key to understanding the nature of a particular factor (Sudman & Blair, 1998: 548). Squared factor loadings indicate what percentage of the variance in an original variable is explained by a factor (Hair, et al 1995: 366).

Factor scores are also calculated for each of the new variables that represent combinations of the original variables (Sudman & Blair, 1998: 548). Factor scores are composite measures created for each observation on each variable extracted in the factor analysis. The factor weights are used in conjunction with the original variable values to calculate each observation's score. The factor score then can be used to represent the factors in subsequent analyses (Hair *et al.,* 1995: 366).

The question of how many factors to retain is by its nature this an arbitrary decision (Sudman & Blair, 1998: 557). However there are some guidelines that are commonly used, and that, in practise seem to yield the best results. The Kaiser

criterion states that factors with eigenvalues greater than 1 should be retained. In essence this is like saying that, unless a factor extracts as least as much as the equivalent of one original variable, we drop it. This criterion was proposed by Kaiser (1960), and is probably the most widely used (Statsoft Inc., 1997).

When a satisfactory factor solution has been derived, some meaning must be assigned to each factor, which involves substantive interpretation of the pattern of factor loadings for the variables (Hair *et al.*, 1995: 397). While all significant factor loadings are usually used in the interpretation process suggested that, as a rule of thumb, to ignore variables with loadings less than .50.

According to Sudman and Blair (1998: 549), the overall factor analysis can generally be considered as effective if the total variance explained by the selected factors exceeds 70%. If this is not the case, it should be noted in the report.

## 6.5 CROSS-TABULATION

A cross-tabulation table is simple for a bivariate analysis (Sudman & Blair, 1998: 475) and is a count of the number of cases that fall into each of several categories when the categories are based on two or more variables considered simultaneously (Churchill, 1992: 612). Thus cross-tabulation allows us to examine frequencies of observation that belong to specific combinations of categories on more than one variable (Statsoft Inc., 1997).

## 6.6 SUMMARY

In order to be able to investigate the research problem and objectives, a thorough and formal methodology should be used. The universe was identified from which the sample frame were derived.

A preliminary questionnaire and then the final questionnaire were drawn up, tested and distributed by means of fieldworkers among 200 respondents, of which a success rate of 144 (72%) were achieved. The results were captured on computer, edited, coded and analysed.

Chronbach alpha tests were conducted for reliability of the questionnaire, factor analyses were done and cross-tabulations were ran.
In the following chapter (Chapter 7) the research findings of the study are discussed.