

## CHAPTER 3

### THE SMME ENVIRONMENT

*“It is a modest (but not tiny) proportion of all firms  
which make the most significant contribution to  
job generation and growth – usually the high-flying firms.”*

(Gallagher & Miller, 1991)

#### 3.1 INTRODUCTION

Small firms are of vital importance to economies, but it must be pointed out that they are not mini-versions of large corporations; they do have features in common with all organisations but they also have unique characteristics and attributes which are reflected in the manner in which they are organised and managed. The small scale of their operations could mean that small ventures have little impact on their surroundings and have limited power to modify environmental forces to their advantage.

Classic economics would suggest that they accept their industry’s price and that their output has no impact on the overall market for their goods or services. In addition, they will seldom be able to exert a strong influence on suppliers, the legal fraternity, politicians or the local community (Carson *et al*, 1995: 62).

However, their weaknesses in these areas can be counterbalanced by the ability of smaller ventures to react quickly to environmental changes. Large, bureaucratic ventures require stability, indeed it has been suggested that stability encourage

bureaucratic organisations, which in turn have a vested interest in reinforcing environmental stability (Robbins, 1992).

However, try as they will, large organisations have a limited capacity to control environments and very stable environments are rather uncommon nowadays. Fundamental changes in social values, consumer tastes, technological developments, managerial techniques and financial markets offer the smaller, flexible, responsive organisation an advantage over giant organisations. Their non-bureaucratic structural arrangements, together with the concentration of decision-making power in the hands of the owner, allows growth-orientated small ventures to capitalise on the opportunities which emerge from environmental changes (Carson *et al*, 1995: 62).

Small organisations usually thrive in a changing environment, but literature have pointed out that the environment must not be unduly complex (Mintzberg, 1979). Mintzberg mentioned that the tasks completed by the organisation are relatively easy to comprehend. If the organisation is required to solve a complex problem for its customers – the design and manufacture of electronic surveillance equipment, for example – the owner is unlikely to understand the fine detail and rapid developments of the technology. To operate successfully in this kind of business it is necessary to employ experts and delegate a significant amount of decision-making authority to them. Since most owners of small firms are reluctant to delegate important decisions to their employees it is unlikely that small owners and owner-managers will feel comfortable in this environment. The larger small firm (medium enterprise), with a fully fledged group of non-owners in managerial roles, might cope in a more complex environment, but it has been pointed out that even in these organisations owners simultaneously grant their managers decision-making freedom and retain the authority of ownership (Goffee & Scase, 1985).

Carson *et al* (1985: 63) mention that in formulating personal and organisational strategy, owners use their contacts to develop an image of the environment and pursue opportunities which offer potential and which accord with their values.

They are personally involve in seeking opportunities and the changes that occur in the turbulent small firms environment present openings which many owner / managers will grasp. Given the limits imposed by a small scale of operations evidence suggests that growth-orientated owners of SMME's pursue opportunities flexibly and innovatively. Unlike their counterparts in large organisations, entrepreneurial owners pursue a number of opportunities, but they refuse to be constrained in their search by the assets currently under their control. They make many tentative investigations of promising projects and they frequently assume that techniques and technologies, which are not currently available, will be developed in the near future. In this sense they pursue riskier opportunities but they are ready to meet these risks. Not having sufficient resources to underwrite their opportunities, they have to develop creative and innovative ways of acquiring the requisite resources (Stevenson & Gumpert, 1991).

Turning to market matters, Carson *et al* (1995) mention that small firms are not in a position to manipulate their markets and they do not have the volume to compete with large ventures on the basis of price. As a result it has been suggested that their best option is to seek market niches and avoid market penetration or diversification as a developmental strategy. Through appropriate market or product development strategies suitable niche markets and products can allow a small firm to grow. The inability of the small firm to dominate a market suggests that they will need to spend considerable time in the pursuit of orders and recent research evidence reveals that owners are closely involved in seeking new orders and developing new markets (Lindsay *et al*, 1993).

Overall, it can be seen that in assessing entrepreneurial and market opportunities SMME's, through the centralisation of strategic decision-making power and their flexible structures, respond rapidly to openings and use their creative skills to acquire the resources they need.

### 3.2 THE ACQUIRING OF RESOURCES FOR SMME'S

When it comes to the matter of marshalling resources, small firms face special difficulties. Suppliers are keen to reduce their administrative and transport costs by processing large orders and they are sometimes reluctant to supply small quantities of their materials.

In addition, the price discounts that are available to large buyers are rarely offered to small ventures. In large organisations expert procurement officers who fully understand the buying process and command significant buying power can ensure that appropriately priced materials arrive at their warehouses just-in-time, but this managerial function will be handled by generalists in the small firms. Lack of specialised expertise and leverage can place the small firm at a disadvantage (Carson *et al*, 1995: 64).

The acquisition of adequate finance is no less troublesome. Financiers require access to detailed financial information if they are to offer large sums of relatively cheap money to businesses. However, most small firms are not quoted on the stock markets and they are understandably reluctant to divulge sensitive financial data to outsiders. They are therefore at a serious disadvantage, and this, coupled with their problems in managing cash flow and getting paid, can lead to under-capitalisation problems (Carson *et al*, 1995: 64).

Matters are no easier when it comes to hiring labour. Research reveals that small firms, which cannot compete on salaries offered by giant corporations, have difficulties in recruiting enough skilled workers (Storey, 1985). Most owner/managers are deeply committed to their ventures, but work is merely an instrumental activity for many employees. When owner/manager expectations are not realised, labour-management conflict can come to the fore in small firms.

Considerable problems arise also in hiring and developing managerial personnel. It has been showed that many small firms are started by individuals with some

experience of production or general management. Few firms have financial expertise at their disposal and only growth-orientated ventures have access to marketing talent. As firms grow, they invariably need additional managerial expertise in finance and hiring accountants from the labour market usually fills this gap. Marketing and personnel activity are more likely to be carried out by the owners themselves or by promoted employees. However, difficulties arise because of the scarcity of well-qualified people who will work in small firms and by the reluctance of owners to develop their managers. The fear develops that skilled managers will leave and set up in competition (Cromie, 1991).

In the above review it has been revealed that small firms do experience problems in acquiring resources and that their lack of specialist expertise coupled with the small scale of their operations affords them little purchasing power.

An additional problem arises from the intermittent nature of their demand for resources. It was mentioned that small firms thrive in changeable conditions but, unless they are prepared to hold large stocks, the variation in the demand for final products will be reflected in an irregular demand for resources. In general, the difficulties in procuring resources emanate from two sources, namely:

- firstly, changeable demand and
- secondly, lack of leverage.

### **3.3 THE STRUCTURE OF SMME's**

Organisations often break down tasks into their component parts and assign specialist staff to complete their part of the overall task. However, specialisation is only economically feasible if a venture has a large output. There is no merit in dividing work into specialised components and hiring experts to complete it unless the experts are to be fully employed. If the volume of work does not warrant the recruitment of a specialist, then this work will have to be done by

someone else – by a consultant, a non-specialist or the owner in person. Since it is highly unlikely that the non-specialists will be as proficient as the specialists, some of the cost-advantages of specialisation will be lost to the small firm.

Small firms do not normally exhibit the complicated, sophisticated structure, the managerial hierarchies or the formalised behaviours which are found in large organisations. While small enterprises usually employ staff who performs a range of tasks, large organisations tend to use specialists who perform the same activity time and time again. This means that procedures, rules and general instructions can be formulated for the latter's work, which can then be written down in manuals, etc. It can be seen therefore, that many of the structural features of small ventures arise because they are small (Robbins, 1992).

### **3.4 MANAGERIAL INFLUENCE AND CONTROL OF SMME's**

The SMME's owner experiences tension between exercising the right to dictate organisational policy and goals and at the same time react and respond to the knowledge and wishes of the personnel in the firm. These tensions are shown in the top half of Table 3.1. *Ad hoc*, flexible approaches are required in small firms and a closely-knit operative team approach is needed.

It is clear also that the owner occupies a dominant position and it would seem that a potential for tension exists between the desire of the owner to exert a strong influence on events and the need to empower personnel. The result is often a strong, directive, leadership role (see lower section of Table 3.1). They coordinate the activities within their organisation by the direct, face-to-face supervision of others; they use one-way communication and the decision-making process is centralised in the person of the owner/manager (Carson *et al*, 1995).

**TABLE 3.1 - Managing the small firm: controlling and empowerment forces**

**PRESSURES FOR CONTROL**

**PRESSURES TO UNSHACKLE**

Owners use entrepreneurial flair to determine their and the organisation's goals	The owner must monitor activities, become aware of the tensions and resolve the conflicts which arise between these opposing forces	Owner is close to employees and consults them
Owner is independent		Owner needs co-operation of staff
No divorce of ownership from control		Employees carry out management functions
Family control is strong		Career prospects for managers must not be ignored
Little management through organisation, therefore personalised management style		Organic structures, employee discretion call for a team approach
All-powerful owner adopts a directive leadership style		Small size encourages participative approaches
Co-ordination by direct supervision		Co-ordination by mutual adjustment
Centralised decision-making		Autonomy and discretion afforded to employees
Top-down communication from the owner		Two-way communication for problem-solving
Owner uses transactional approach to relationships		Owner and others seek collaborative relationships

(Carson *et al*, 1995: 72)

Although SMME owners want to retain a substantial element of decision-making power, they are also seeking to promote flexibility, innovation and problem-solving among their employees. This paradox is address directly in a study of family firms in the general building and personal services sector by Goffee and Scase (1985). They found that the structural arrangements in their sample were flexible and organic and that the owners did delegate a degree of decision-making autonomy to their non-owning managers. Drawing on the work of others, Goffee

and Scase show that informal, organic structures and centralised decision-making can coexist. In the case of the owners in their study, Goffee and Scase indicate that the managers managed flexible, organic, informal departments and were delegated decision-making autonomy in some instances while the owner retained control over other decisions.

The retention of authority in key areas by owners and the occasional intrusion into the manager's territory will cause a little tension, but if the owners intercede on a regular basis the tension may become unbearable. For this reason the owners in this study influenced their managers by indirect methods to ensure that they made the "right" decision (Goffee & Scase, 1985).

Goffee and Scase further show that the owners took advantage of the flexibility, ambiguity and lack of rules in their organisations to bring their influence to bear upon many decisions. Owners and managers revealed that they were in constant discussion with one another and consequently a degree of "telepathy" developed between them.

Even though the managerial skills and performances of SMME's do not form the integral part of this study, they are of relevance in that speculating on those skills which managers of SMME's might be well advised to develop. In managing a small enterprise words like creativity, adaption, change, ambiguity, flexibility, problem-solving, collaboration and organic structures occur at regular intervals. This is because small firms exist in a changeable environment where firm orders are hard to come by, and this make predictions, planning and formalisation difficult. As a consequence, in the formulation of strategy, the acquisition of resources and the organisation of production, temporary, *ad hoc* project and production teams are put together to meet the demands of an ever-changing environment (Carsons, 1995: 74).



### 3.5 IMPORTANCE OF SMME's

Small enterprises, virtually no matter how they are defined, constitute at least 95% of enterprises in the European Community. The average employment size for firms in the European Community varies from three employees in Greece to ten in the Netherlands. Despite their huge importance, and the relevance that politicians now give to the small firm sector in terms of economic development, the message seems to have been virtually ignored by financial and economic commentators.

Sengenberger *et al* (1990) did a comprehensive review on international comparisons between small firms in France, Germany, Italy, Japan, the United Kingdom and the United States. They conclude:

*“The most important empirical results to emerge from the country reports is that there has been a recent increase in the share of total employment in small enterprises and establishments which are defined as those than fewer than 100 employees. In general, the increase has been at the expense of large enterprises and establishments. While the magnitude of the increase varies considerably from country to country and across sectors, its significance rests primarily on the fact that it signifies the reversal of a substantial downward trend in the employment shares of small units that had prevailed for many decades.”* (Storey, 1998: 28-29).

The SMME sector has an irrefutable economical- and social function in the free enterprise market. The stimulation and enhancement of small business activities and their competitive abilities offer continuously a challenge to the entrepreneur as well as the economic policy and strategy of a country (Kroon & Moolman, 1992: 129).

Kroon & Moolman (1992: 129) mention the following as reasons for the importance of SMME's in a country:\

- *SMME's are multitudinous* – SMME's represent on average 92,8% of the total amount of enterprises of 17 countries in a research study by Moolman (1984: 138).
- *Supplier of employment and creation of work opportunities* – the SMME market is much more labour intensive than the production and large-scale technology factories.
- *Economic stability and better distribution of economic activities* – with effective economic strategy a country can restrict conjuncture fluctuations to a minimum.
- *Innovator and initiator* – the small businessman disposes over more freedom and initiative to play the role of inventor of new products, ideas and techniques.
- *Subcontractors for the large enterprises* – large and small enterprises work in partnership together. Manufacturers of mass products are largely dependent on smaller firms for the distribution of their products.
- *Manifestation of the free market system* – the SMME sector has a substantial influence on the free market economy regarding healthy price rivalry.
- *The small sector plays a socio-economic role* – firstly, small enterprises offer a wide range and a high standard of personal service and secondly the small enterprise is not only prepared, but also capable to plough back into the community.
- *SMME's are flexible and adaptable* – there are three reasons for this:
  - Shorter communication channels
  - Quicker decision-making
  - Less rules and regulations
- *SMME's can have a multiplying effect* – especially on socio-economic activities; this effect starts when personnel are being recruited from elsewhere. They receive remuneration, which are being spent on other necessary needs like housing and other life provisions. This leads to the development of a total infrastructure.

- *Entry into the business world* – the SMME is many times the starting point for the entrepreneur into the bigger business world (Kroon & Moolman, 1992: 129-136).

While the SMME sector has remained an enigma for years, a series of empirical studies have recently enabled researchers to assemble a far better understanding of the economic role of small firms and entrepreneurship. In the following section Sexton & Kasarda (1996) present stylised facts on the economic role of small firms in market economies:

**Stylised fact 1:**        *A shift in the size distribution of firms has occurred away from larger firms towards smaller ones.*

The shift in the firm size distribution is found in most industrialised countries at both the enterprise and establishment level (Loveman & Sengenberger, 1991). They point out that, the actual size distribution of firms at any particular point in time depends on the institutional or historic context: “Major criteria for structuring SMME sectors are the legal status, the ownership status, the distinction between “craft” and “industrial” firms, independent and subordinate firms, or small firms in small-firm industries vs. small firms in industries where large enterprises dominate or where there is a mixed size composition.” (Loveman & Sengenberger, 1991: 5). In other words, while there appears to be no predetermined optimal size distribution of firms, the shift towards a large percentage of small firms in most countries is even more remarkable given that these firms started from such different points.

**Stylised fact 2:**        *The firm growth rate decreases with firm size and firm age.*

Recent studies have considerably expanded the state of knowledge about the relationship between firm size and growth. Hall (1987) identified a four-percentage point difference in the annual growth rates between firms in the 25<sup>th</sup> and 75<sup>th</sup> percentiles within publicly traded firms. Smaller firms were found to grow faster than their larger counterparts. Hall argued that differences in

investment and R&D outlays explained the truly superior job creation performance of smaller firms. Building on the work of Jovanovic (1982), Evans (1987) also cast considerable doubt on Gibrat's Law of the relationship between firm size and firm growth. In this 1987 paper Evans selected 100 four-digit Standard Industrial Classification industries and calculated individual firm growth rates between 1976 and 1980. He found that Gibrat's Law did not hold in 89% of the industries. The firm growth rate is found to decrease with both firm size and firm age.

**Stylised fact 3:**        *Small firms are at least as innovative as large firms on a per employee basis and generally have the innovative advantage in high-technology industries.*

The most convincing evidence in support of the innovative advantage of small firms comes from the U.S. Small Business Innovation Data Base (Scherer, 1991). He found that in 1982, large firms in manufacturing introduced 2608 innovations. Small firms contributed 1923 innovations. However, small firm employment was only about one-half as great as large-firm employment, so that the mean small-firm innovation rate was 322 innovations per million employees. By contrast the large-firm innovation rate was 225 innovations per million employees. The small-firm innovation rate is relatively higher in the high-technology industries, such as instruments, chemicals, non-electrical machinery and computers.

**Stylised fact 4:**        *Small firms face binding liquidity constraints.*

It has long been suspected that small firms face liquidity constraints because of imperfect capital markets. Evans & Jovanovic (1989) concluded that imperfect credit markets do indeed constrain entrepreneurs. They based their judgement on econometric tests in which wealthier people are shown to be more likely, *ceteris paribus*, to switch from paid employment into self-employment. Fazzari *et al* (1988) found that for a sample of publicly traded companies financing were more difficult than for larger firms. Finally Blanchflower & Oswald (1990), using British data, found that the probability of self-employment depends upon whether the individual ever received a gift or inheritance. Those that were given or

inherited 5000 pounds, for example, were approximately twice as likely, *ceteris paribus*, to establish a business. These results are consistent with other countries' results, stressing the importance of capital and liquidity constraints.

**Stylised fact 5:**        *The small-firm share of employment is growing faster in the goods-producing sectors than for the economy as a whole.*

Between 1977 and 1986 the small-firm share of employment increased in the goods-producing sectors and decreased in the non-goods-producing sectors. Small-firm employment increased by 7,8% in mining, 3,5% in construction and 1,8% in manufacturing. During the same time period, small-firm employment decreased by 0,8% in wholesale trade, 7,5% in retail trade, and 3,2% in services (Brown *et al*, 1990: 26). It should be remembered that even though firms in the non-goods-producing sector are getting relatively larger, they are only about one-third the size of firms in the goods-producing sector. Even after taking into account sectoral shifts, the small-firm share of employment in manufacturing has increased (Loveman & Sengenberger, 1991).

**Stylised fact 6:**        *Firm survival is positively related to firm size and firm age.*

New-firm start-ups, as well as new plants, tend to have a lower rate of survival than established firms do. Industries experiencing substantial entry in the form of entrepreneurial start-ups are more likely also to experience a high rate of firm failure. Such industries can be characterised by a high degree of what Invernizzi & Revelli (1991) call “turbulence” – the simultaneous entry of new firms and exit of incumbents.

While it is well known that new firms fail at a higher rate than established firms, exactly how many firms survive for a “ long” time, and therefor make a meaningful contribution to the economy, is unclear.

**Stylised fact 7:**        *Small firms produce at least a proportionate share of new jobs.*

It is in the area of job generation where the greatest amount of international research has been done. The results from these international studies broadly suggest that the trend in the United States observed by Birch (1981) have similar counterparts in other countries. However, there are two points that must be kept in mind. First, in Europe substantial job losses by large firms dominated the employment statistics and offset the employment gains of smaller firms. Second, the net new jobs result from a very dynamic process of expansion and contraction – births and deaths – within the small firm sector. Alan Hughes (1991) observes that there has been an increase in the share of small-firm employment in the manufacturing sector; however it has not been as large as previously suggested and the trend can be traced back to the 1970's.

## **3.6 ADVANTAGES AND DISADVANTAGES OF SMME'S**

### **3.6.1 Advantages**

Small businesses are thus not simply smaller versions of large corporations. Their legal forms of organisation, market positions, staff capabilities, managerial styles and organisation structures, and financial resources generally differ from those of bigger companies.

These differences give them some unique advantages (Boone & Kurtz, 1996: 125-127):

- *Innovation* - Small firms are often the first to offer new products to the market (when introduced by an entrepreneurial venture). Federal Express and Apple Computer are classic success stories.

- *Better customer service* - A small firm can often operate more flexibly than a large corporation, allowing it to tailor its product line and services to the needs of its customers. As television broadcasts reach all over the globe, for example, more people are demanding specific products.
- *Lower costs* - Small firms can often provide products more cheaply than large firms can. Small firms usually have fewer overhead costs - costs not directly related to providing specific goods and services – and can earn profits on lower prices than large companies can offer. A typical small business has a lean organisation with a small staff and few support personnel. The lower overhead costs due to a smaller permanent staff can provide a distinct advantage to a small business. Such a firm tends to hire outside consultants or specialists, such as attorneys and accountants, only as needed. By contrast larger organisations often keep such specialists as permanent staff members. As a rule all growing organisations add staff personnel faster than line (or operating) personnel.  

To keep costs as low as possible, many entrepreneurs start their small businesses from their homes. This location decision can either be a good idea or a disaster, depending on the nature of the business and the nature of the entrepreneur. Some lines of work are better adapted to a home setting than others. This specific location decision will be discussed further in the following literature chapter.
- *Filling isolated niches* - The size of a big business excludes it from some markets. High overhead costs force it to set minimum sizes for targets at which to direct competitive efforts. Some large publishers, for example, identify minimum acceptable sales figures that reflect their overhead costs. This situation provides substantial opportunities for smaller publishers with lower overhead costs. In addition, certain types of businesses lend themselves better to smaller firms. Many service businesses illustrate this point. Finally economic and organisational factors may dictate that an industry consist essentially of small firms.

### 3.6.2 Disadvantages

SMME's also have a variety of disadvantages, including a potential for poor management, a risk of inadequate financing, and government regulation. A small firm can be more vulnerable than a large, diversified corporation during a recession, since it probably has fewer resources to cushion a fall. Table 3.2 shows the survival rate of new small businesses in a variety of industries; on average nearly 62% of all businesses dissolve within the first six years of operation (Boone & Kurtz, 1996: 128).

**TABLE 3.2 - Survival rate of businesses**

SURVIVAL RATE OF BUSINESSES (shown as percentage %)	YEARS OF SURVIVAL		
	<2	2-4	4-6
TOTAL: ALL INDUSTRIES	76,1	47,9	37,8
CONSTRUCTION	77,1	45,6	35,2
MANUFACTURING	78,7	56,2	46,2
TRANSPORTATION, COMMUNICATION & PUBLIC UTILITIES	75,7	46,2	37,0
RETAIL TRADE	75,6	48,1	37,0
FINANCE, INSURANCE & REAL ESTATE	74,2	46,2	36,0
SERVICES	75,4	46,5	37,3

(Source: Boone & Kurtz, 1996: 128)

The most important disadvantages for SMME's are (Boone & Kurtz, 1996: 128-130):

- *Poor management* - Poor management is a common reason why small businesses fail. Frequently people go into businesses with little, if any, business training. Someone may launch an enterprise based on a great idea for a product or service, assuming that knowledge about business matters will



come as the firm operates. Bankruptcy is often the result. It is also important to recognise the enterprise's limitations; few business owners possess the specialised knowledge of an attorney or an accountant – outside professionals should be called in when needed.

Moreover, small business owners sometimes let their entrepreneurial optimism run wild. They forget about details like paperwork and also neglect to “do their homework” before starting the small business. The belief that others will see a product as unique or better than that of the competition should be verified by marketing research.

- *Inadequate financing* - Inadequate financing is another leading cause of small business problems. Many businesses start with inadequate capital and soon run short of funds. They often lack the resources to survive rough periods or to expand if they are successful. Table 3.3 illustrates the financial obstacles that most often confront small businesses. The biggest problem is uneven cash flow and finding funds to pay taxes and employees rank second.

**TABLE 3.3 - Greatest financial obstacles of small businesses**

<i>FINANCIAL OBSTACLES</i>	<i>PERCENTAGE</i>
UNEVEN CASH FLOW	33%
TAXES	16%
PAYROLL	16%
SECURING OUTSIDE CAPITAL	12%
HIGH OFFICE RENTS	5%
OTHER	14%

(Source: Boone & Kurtz 1996: 129)

Most financing for a typical small business comes from the entrepreneur's own resources. Banks provide relatively little funding for small companies. Home-based entrepreneurs may find it especially difficult to qualify for bank loans.

Entrepreneurs also turn to venture capitalists for funding. These are business organisations or groups of private individuals that invest in promising new firms. Venture capitalists may lend money to businesses or they become part-owners of new or struggling companies.

- *Government regulation* - SMME's all over the world complain extensively of excessive regulation and red tape. It is estimated that government paperwork costs small firms billions of rands each year. A larger firm with a substantial staff can usually cope better with the required forms and reports. Many experts within and outside government recognise a need to reduce the paperwork required of small businesses, since they are simply not equipped to handle the burden. Some small firms close down for this reason alone. Especially residential-based businesses have a large burden regarding the rezoning process of properties for business purposes. This aspect will receive more attention in the following literature chapter as well as the empirical study.

### **3.7 LOCATION-DECISION AS ESSENTIAL PART OF A SMME'S SURVIVAL**

According to the above literature it is quite clear that there are several important decisions to be made by the small business enterprise. Most of these decisions can and mostly will indicate the future performance of the enterprise as well as the possibility of survival in the long term. One such decision must be made right in the first stages of starting a small business if not right in the beginning, namely location. Even though some enterprises make this important business decision

only once in their lifetime, most businesses come across this issue more than once during the lifespan of the enterprise. Whatever the case might be, the business location-decision could be the single most important decision in the life of the entrepreneur.

Most previous studies dealing with business site selection decisions have been theoretical and mainly concerned with cost factors. There are many variables other than cost, some of which are qualitative and intangible in nature. In the forthcoming literature chapter the researcher is attempting to provide evidence on the importance of cost and other location-related variables. Various types of SMME locations will be investigated with a detailed discussion on each of them, which will lay the foundation for the further empirical study on this specific topic.

### 3.8 SUMMARY

SMME's are a potent force in many economies but it is important to recognise that they are quite different from their larger counterparts. The small scale of their operations reduces their power in relation to their environment but their centralised decision-making, flexibility and closeness to the customer afford a competitive advantage. Many of their markets are niche markets and the congruence between the personal goals of the owner and the organisation's goals will ensure that all employees are aware of the mission of the firm. As a result, the inversion of means and ends, which is common in large ventures, is unlikely to be prevalent in small ventures. Lack of leverage may present problems for SMME managers in acquiring resources and it is incumbent on them to fine tune their political and relationship skills to allow them to marshall their inputs.

Organisational structures in SMME's are much less rigid, sophisticated and complex than in bureaucracies and their fluid arrangements will not inhibit the creativity and flexibility which is necessary for continued entrepreneurial success. Working arrangements tend to be *ad hoc* and individual and other resources are

general purpose, not specialised. These working arrangements tend to be more interesting and rewarding than those in bureaucracies, but co-ordination can cause problems. The small number of managers will be kept busy maintaining an overview of activities and a good deal of trust is needed since self and peer control are quite common.

Owner-managers in SMME's have to achieve a skilful balance between offering staff the freedom which is necessary to sustain entrepreneurial opportunity seeking and innovation, while ensuring that current activities are fully directed towards attaining present day goals. Delegation of authority is practised but indirect influence and effective socialisation of others ensures that "appropriate decisions are made.

In this literature chapter the discussion commenced with entrepreneurship as the initiator of the small firm and this phenomenon was briefly discussed. The discussion led into a much more detailed evaluation of small, medium and micro enterprises (SMME's). The economic as well as statistical definition of SMME's were discussed and this led to exploring the environment and structure of small firms. Management issues, the importance of SMME's, as well as the advantages and disadvantages of these kinds of businesses were lastly discussed in more detail.

One of the most important SMME decisions for the owner/manager will always be the choice of location. Whether it is for the first time or relocating the enterprise, it is always a long-term decision and cannot be taken lightly. This crucial decision as well as all the different types of locations are being discussed in detail in Chapters 4 and 5.

## CHAPTER 4

### LOCATION THEORY

*“Choosing the right location is partly an art and partly a science. Too often, business locations are selected without proper study, investigation and planning. The location question is much too critical to leave to chance.”*

(Zimmerer & Scarborough, 1996: 15)

#### 4.1 INTRODUCTION

To understand the difficulties of the very important location-decision for SMME's, it is necessary to now discuss the background and literature around location as a theory. Location theory is a set of propositions that yields a systematic exposition and explanation of the spatial organization of economic activities. Traces of location theory may be found in the writings of many classical economists, including Smith, Ricardo and Mill, and interest in plant location theory may be attributed to three Germans: Launhardt, von Thunen and Weber. They set the stage for what is today called the “least-cost theory of plant location”.

Their analytical framework was essentially that of pure competition, as all buyers were assumed to be located at a given market centre, with prices of goods fixed and the demand for each product unlimited relative to any seller's supply. The

location choice involved production factor substitutions as sellers searched for the site offering lowest delivered cost to the market (Greenhut, 1995: 43).

During the last two decades small, medium and micro enterprises (SMME's) all over the world have changed their locations for a variety of reasons. The extensive amount of investment in new locations indicate the significance of location decisions (Karakaya & Canel, 1998: 321).

One of the most momentous decisions any manager will ever make – whether running a multibillion rand conglomerate or a neighbourhood clothing store – is the decision to move the business or any part of it. Whether it means shifting a plant, an office, a warehouse or a showroom, anyone who faces such a decision must live with the consequences for a long time after. Moving a business is obviously more than just packing up the files and the computers, calling a truck and setting up your business somewhere new. The multitude of factors that go into a decision to move, demands that the executive consider at least some of these questions:

- Do the business really need to move – or can the needs be met by expansion?
- What are the actual needs and what can the business afford?
- Where shall the business look for a new site?
- What is the costs going to be at the prospective new location? (tax, utilities, etc.)
- What is the attitude of the local government towards small business development?
- How is the business going to manage the transfer of their employees?
- Is the kind and quantity of labour they need available in the new location?
- What is the “quality of life”? – will the employees want to live and work in the new location?
- How is the business going to finance the move or the purchase? (Browning, 1980: vii-viii).

For the above questions there are no hard-and-fast rules and no easy universally applicable answers.

Czamanski (1981) refers to a growing dissatisfaction with the classical location theory. He asserts that operations researchers reduce complex location decisions to an algorithm form and solve these problems with existing algorithms. He expresses his concern that most location decisions should involve more than the “cost factors”. Schemenner (1979) supports this view and states that costs can be estimated through any quantitative analysis and should definitely consider the intangible and qualitative factors. He cites that the intangible could be risks associated with the costs or demand estimates, business climate of locations, local and state government attitudes, commuting distances for workers and managers and impact of other businesses in the area.

## 4.2 THE THEORY OF LOCATION

Back in 1875, Johann Heinrich von Thunen studied agricultural location and reasoned that the heaviest and least valuable agricultural product should be raised close to the city. Further, if two farmers produce the same product and sell it for the same price the one closest to the city can spend more for machinery, labour, fertilizer, etc..

In 1909, Alfred Weber expanded on Von Thunen’s use of transportation costs as a basis for business location. Weber classified resources into those available everywhere (air and water) and *localised materials*, those limited to certain locations (minerals, ores, etc.). As viewed by Weber, industry divides itself into two groups: those orientated to labour and those orientated to transportation. When two alternative locations come out about equal on these two counts, then consideration of *agglomeration factors* becomes important. Agglomeration factors

refer to closeness to suppliers, economics of size, improved marketing outlets, etc. (Browning, 1980: 54).

In 1948, Edgar M. Hoover separated the cost factors of location into (1) transportation factors, and (2) production factors. Transportation was defined as the cost of procuring the raw materials and distributing the finished product. Production included not only labour and other manufacturing costs but also the agglomerative and institutional forces. He stressed that terminating costs are independent on the length of haul and that the cost per mile of the haul decreases with distance. Thus, water transport, with high terminal costs, usually involves long-distance shipments. Hoover included in agglomeration such advantages as better transfer services, a broader, more flexible labour market, more advanced banking facilities, better police and fire protection, and lower insurance costs and utility rates.

A problem with these theoretical approaches is that they presuppose a unique location that has a site equally advantageous for serving all areas of the market. In reality, a location may be the most profitable despite the fact that it has a high cost relative to other locations or to the market area. Market area in locational theory does not refer to the number of square miles, but to the rand volume of sales. Thus, a freight or production cost disadvantage narrows the market area; conversely, an advantage widens the market area. Greenhut (1956) observes of those attempting to derive a least-cost location:

*“Any business ... must choose first among buying centres. The determination of the best consumption points (area) involves the concept of demand; or otherwise expressed, it is the location of competitors which predetermines price and sales at any buying point for any business ... Location in the backyard of rivals is therefore self-explained; more customers or the same number of customers ... can be served at price “P” and cost “X” than is possible from any other location... selection of a site*



*calls forth not only substitution among costs at alternative locations, but a balancing of all factors accounting for profit, demand and cost.”*

The purpose of these and other location exercises lies in getting the searcher to be divorced from personal preferences and able to calculate the financial benefits of alternative sites. When making such comparisons, one site should be used as a reference point and then the relative costs of sales, transportation, etc. of other options should be compared (Browning, 1980: 56).

### **4.3 LOCATION THEORIES**

#### **4.3.1 Least-cost theory**

The many authors who followed Weber (1928) asserted that locations were determined by the desire to locate at least-cost sites. Some, such as Palander (1935), Schneider (1935) and Hoover (1937), were also interested in the size of the firm's market area and thus, in a sense, concerned with variable demands over space. The majority, however, disregarded the locational effects of varying demands over the landscape. Thus Predohl (1925) was interested solely in developing a substitution cost analysis. Cassel (1923), Krzyzanowski (1927), Englander (1927) and Isard (1960) also were interested in this theory. Ritschl (1927) enquired into the changing patterns of costs and locations over time. Linke (1930) and other students of Weber stressed labor and agglomerative differentials in explaining and measuring industrial displacements from transport centres. Holmes *et al.* (1913) evaluated industrial orientations to materials, labour and markets.

### **4.3.2 The demand approach (locational interdependence)**

The Von Thunen approach applies to agricultural locations, and that of Launhardt and Weber applies mainly to certain manufacturing locations. But the increasing awareness during the early post-World War II years of the limits to their cost-only framework stimulated an opposite view of plant location.

Under the influence of Fetter (1924), Hotelling (1929) and Chamberlin (1946) interest centred on locational interdependence. This conception disregarded cost, since the costs of procuring and processing raw materials were assumed to be equal at all locations, and explained the locations of firms as the endeavour to control the largest market space, in effect, the seller becomes a locational monopolist. Among other factors, locational interdependence requires appraisal of the shape (character) of the demand curve and the influence of site selection of entrepreneurial conjectures about rival firms' location policies. These considerations determine the degree of intra-industry dispersion over the landscape and the extent to which locational monopolies could arise and led directly to the generalization given by the maximum-profit theory of plant location.

### **4.3.3 Theory of the maximum-profit plant location**

August Losch (1944) reached the core of the "location" problem when he noted that to seek the location of lowest cost is as wrong as looking for the site offering greatest sales. He initially conceived of a homogeneous landscape in which a monopolistic producer sells over a circular market area. This conception led him ultimately (under a Chamberlinean perspective) to depict a spatial competitor whose long-run trading area is reduced in size to that of a zero profit hexagon. This polygon minimizes total distances from its centre to all points in the market

area, whereas the hexagonal network fills the entire landscape. Within given industries, total effective demand is therefore maximized. Lewis (1945), in generalizing his own picture of the ideal size and number of firms, recognized the hexagon as the market area that yields stable equilibrium.

Losch recognized that different industries would possess different-size hexagons which in turn would generate different inter-industry concentrations. But differential intra-industry costs would arise as a result of different agglomerations. Although he therefore recognized variability of costs and demand at alternative sites over the now-heterogeneous landscape, he failed to combine an analysis of intra-industry cost and demand differentials in one model. At the same instant, he disregarded the conjectural variations of entrepreneurs and the impact of cost differentials thereon. The fact that extraordinary concentrations of homogeneous (intra-industry) business units could therefore result was ignored as he confined his frame of reference to an “ideal”, not actual, landscape.

#### **4.3.4 Large versus small firms and price systems theories**

When costs vary widely among locations, large firms tend to concentrate, *ceteris paribus*, in the particular city or district which is least in cost relative to the whole market area (Florence, 1962). Only the foolhardy dare chance a movement away from the centre of a market area if doubt exists as to the probability of symmetrical locations. The location of the smaller firm is, according to this reasoning, somewhat more flexible. For example, small plants disperse relatively more than large firms and frequently locate in less industrialized areas (Greenhut, 1956).

Different price systems generate different locations. The upshot is that within certain well-defined limits of pricing, any plant locator tends to visualize different-size market areas over the economic landscape. When pricing and

location are competitive, cost and demand are co-determiners of location (Thisse, 1975).

#### 4.4 RELEVANCE OF LOCATION THEORIES

Although von Thunen's theory centred primarily on agricultural produce and its transport to a central market (the concentric ring idea), his analysis is used today in evaluating the location of activities within urban centres. And whereas Weber took each plant location as a single point, his analysis underlies the operations research work used by multi-plant manufacturers in determining location choice. In corresponding form, Hotelling's insights into agglomeration combined with the maximum-profit theory of location, explains the co-existence of small- and large-scale operations in the same industry. Perhaps most critically, the required evaluations of oligopoly locations and related utility-disutility conjectures apply to non-spatial issues, e.g., product differentiation, medicine, even the CAPM model of finance theory (Greenhut & Greenhut, 1991), and in a global context, the waves of direct foreign investments (locations) designed to avoid high transport costs and other barriers (Macleod *et al.*, 1987).

Under this conception of economic ordering, it followed that sellers could monopolise those buyers who were situated most proximate to their plants. The selection of a plant site thus involved attempts to remain at a distance from rivals. It followed that the location of any one firm was dependent upon the status of its rival and that the primary aim of analysis was to emphasize those forces which attract or repel competitors.

The final step is obvious: suppose both costs and demand are variables, where will a firm locate? Investigation of this question requires conception of spatially separated buyers, while at the same time considering the fact that costs may vary at alternative locations. Basically, the problem of analysing the relative force of

these two variables involves appraisal of the effect of one on the other. By determining how costs influence the estimate of the plant locator, regarding the site-selection of his rival, a forecast of the effective demand existing at alternative locations can be had. Once this type of conjecture is made, the selection of the optimum location follows automatically.

While each of the stages of development are distinguishable from the standpoint of certain postulates, a unifying force exists; this common bond is found in the inherent assumption that the selection of a plant site involves the quest for maximum profits. Thus each theory outlined above is a maximum profit location theory, but to avoid terminological difficulties, we refer to the first stage as the least-cost theory of plant location, the second stage as the interdependence theory of plant location, and leave to the last stage the nomenclature of the maximum-profit theory of location.

## **4.5 CONDUCTING THE BUSINESS LOCATION SEARCH**

The previous literature covered the theory around locations and how it developed along the years. These theories showed the importance of location as decisive factor in managing a small business or any business for that matter. The question now arises: if the enterprise is not starting as a new business, but is growing by means of capacity, should it relocate to a bigger and better location or should it just expand its current location?

### **4.5.1 Relocation versus expansion**

The theory portrays that on-site expansion as the capacity increasing option should be considered first, but it is fraught with some stubborn problems, particularly if expansion on-site has been a repeated practice. Remedies for these

problems often take the form of new business site openings or business relocations. Opening a new business and relocating an existing one, however, are not substitutes for one another. One is a better remedy for certain of the problems with on-site expansion than is the other (Schemenner, 1982: 15).

In general, opening at a new location is preferable if problems apparent at the existing location involve product proliferation, workforce size and meeting anticipated growth. The business that wishes to avoid chaos in the business due to too many products in the process, or to side-step possible workforce unionisation, job-bumping, depersonalisation in the quality of work life or to get a grip on rapid growth through careful management of multi-business strategy, generally favours opening at a new location. Table 4.1 summarizes the relative advantages of new business locations and relocations versus expansion on-site.

**TABLE 4.1: Relative advantages of new locations versus expansion-on-site**

<i>PROBLEM AREA</i>	<i>NEW LOCATION</i>	<i>EXPANSION ON SITE</i>
<b>LAY-OUT &amp; MATERIALS HANDLING</b>	Radical improvements possible	Radical improvements possible
<b>NEW TECHNOLOGY</b>	New technology usually used at new location	Same technology usually used
<b>INVENTORY CONTROL</b>	Radical change to procedures and policies	Inventory levels more likely to be unaffected
<b>MANAGERIAL IMPACT</b>	Additional managers required	Old managers generally used
<b>SIZE OF WORK FORCE</b>	Keeps work force levels at locations under desired ceilings	Little or no effect
<b>FINANCIAL BURDENS</b>	Extra overheads and new location start-up expenses	Expansion expenses less than relocating
<b>EASE OF MEETING FUTURE GROWTH</b>	Relatively easy. Geographic growth met best with new market area locations	Not easy. Shares many future capacity problems.

(SOURCE: Schemenner, 1982: 17)

While most businesses pass through location search and decision phases in more or less the same sequence, the ways in which they organize their searches vary markedly. The organisational schemes employed range from highly centralized, corporate analyses to very decentralized, division-based analyses with a number

of different schemes in which division management and the corporate staff interact. Because of the essence of this study, it is essential to rather look at the search and decision process of SMME's. The location decision process at smaller businesses, though sharing many of the same traits, has some generally distinguishing characteristics of its own. Among these characteristics are:

- *Informal, top-down decision-making* - The “team of specialists” decision-making that prevails in the majority of large corporations is less apt to apply to smaller businesses. There, instead, the decision to locate a new plant originates most often at the top of the company and involves only a handful of top level managers. More than in large companies, personal preference is likely to intrude on the decision process.
- *Local search* - In most instances, a small but growing company's second or third location is likely to be located within comparatively short range of its first plant. Most small companies' early growth is not compromised by transportation expenses to distant markets, so geographic spread of manufacturing capacity is only infrequently required. Moreover, management development is a chronic deficiency of small, growing businesses and lack of management depth usually argues for keeping plants within close proximity of one another.

Local search also complements the informality of the location decision process at smaller businesses. By staying within the local area, the business management restricts itself to locations it either knows about first-hand or which it can easily scout. In so doing, it lessens the trauma of having to deal with the tremendous uncertainties the establishment of a second or third location can bring (Schemenner, 1985: 25).



## 4.6 LOCATION CONSIDERATIONS

For almost all sizable businesses, the evaluation of a proposed business location includes a systematic consideration of its costs and benefits. The capital appropriations request for the site, and the documentation that stands behind it, typically include a raft of figures and qualitative considerations. As much as can be quantified should be and can include:

- site and site preparation costs;
- construction or purchase / renovation costs
- equipment costs
- labour and fringe benefit costs
- workmen's and unemployment compensation payments
- start-up costs (training, inefficiencies, etc.)
- working capital requirements such as:
  - stock
  - materials
  - accounts receivable
- freight in and freight out expenses
- taxes
- relocation expenses for managers and key staff
- forecast of the revenues expected to be generated by the business

Often both costs and benefits are combined in net present value (or internal rate of return) calculations which summarize the projected financial attractiveness of the location. The qualitative considerations then serve to support or to temper the financial analysis.

While the sophistication of the financial and qualitative aspects of the capital appropriations request and its supporting documents can vary markedly among

small businesses, and while assembling the data usually requires repeated iterations before it is accomplished satisfactorily, management generally feels comfortable with its review and evaluation. What makes the location decision uncomfortable for many businesses is not the final steps of evaluation but the beginning steps of the process where potential sites must be generated to satisfy acknowledged capacity needs. It is in the initial stages of the location search where the non-standard, unfamiliar nature of the location search process and the complexity of the elements that need to be considered combine to create hesitancy in many managers. To overcome this hesitancy, businesses should simplify and systematize this process by considering, evaluating and measuring all the relevant location factors applicable to that specific SMME (as will be discussed later in this chapter) (Schemenner, 1982: 32).

#### **4.7 LOCATION FACTORS AS REVEALED BY THEORETICAL AND EMPIRICAL STUDIES**

As was concluded from the first part of this chapter (location theories), location factors are divisible into three broad groups:

- demand;
- cost and
- purely personal considerations.

The demand and cost determinants are influential in all site-selections. The personal considerations which partially determine the demand for a good and / or its cost of production apparently influence many small plant locations. The personal considerations of the psychic income type appear effective in the site-selection of some SMME's (Greenhut, 1995: 65).

### ***Demand factors:***

According to Greenhut (1995) these demand factors include:

- *The shape of the demand curve for a given product.*
- *The location of competitors, which, in turn, partially determines:*
  - (i) the magnitude of the demand, and
  - (ii) the cross-elasticity of demand at different places.
- *The significance of proximity, type of service and speed of service.*
- *The relationship between personal contacts and sales.*
- *The extent of the market area, which itself is partially determined by cost factors and pricing policies, and dispersion of buyers.*
- *The competitiveness of the industry in location and price – certainty and uncertainty.*

### ***Cost factors:***

The cost factors are also divisible into several sub-groups:

- *The cost of land, which includes:*
  - (i) the rent of land;
  - (ii) the tax on land;
  - (iii) the availability of capital, which partially depends upon:
    - the banking facilities and financial resources, and
    - personal contacts.
  - (iv) the cost of capital, which is also partially dependent upon
    - the banking facilities and financial resources, and
    - the type of climate;
  - (v) the insurance rates at different sites, which, in turn partially depend upon:
    - the banking facilities and financial resources,
    - the police and fire protection, and
    - the type of climate;
  - (vi) the cost of fuel and power, which is partially dependent upon

- natural resources,
  - topography, and
  - climate.
- *The cost of labour and management, which is influenced by:*
    - the health of the community, the park and education facilities, housing facilities, wage differences, etc.
    - state laws.
  - *The cost of materials and equipment, which is partially determined by:*
    - the location of competitors (sellers and buyers),
    - the price system in the supply area (equalizing or other forms of discriminatory delivered prices)
    - the extent of the supply area, which in turn is partially dependent upon:
      - personal contacts
      - price policy.

*The cost of transportation, which is partially determined by*

- the topography; and
- the transport facilities.

***Personal considerations:***

The purely personal factors include:

- *The extent to which the minimax principle outweighs the quest for maximum profits:*
  - the importance of psychic income (size of business),
  - environmental preferences, and
  - the security motive (Greenhut, 1995: 66).

The above list of location factors, possibly, appears to be an entrée toward only a short run understanding of location in a free market economy. If the zone-delivered system of rating by transport agencies are included in the above list, and such price systems as the delivered price ones, a short-run capitalistic focus would be emphasized. But, the discerning reader might realize that abstraction from certain man-made (institutional) forces in the above list is all that is necessary to gain the long run picture of *underlying forces* of location in a free market economy. For, if being hold that delivered price systems and their like are distortive of economic plant locations, abstractions from them, such as by assuming price systems (in and out), lead us toward the understanding of the basic free market forces of location. For such type of focus, we are left then, with only some cost factors, some demand forces (such as locational interdependence under mill pricing, certainty and uncertainty, and their like), and the personal factors. These factors are part of the system of plant location in a free market economy, regardless of whether the particular focus be short-run or long-run. In summary, we exclude in the long-run focus the distortive types of man-made forces, such as freight rate zones, discriminatory pricing, tax incentives and state and federal laws (Greenhut, 1995: 67).

It is of sufficient academic interest to note that the list proposed above pertains to even such an economy as one where there originally existed an equal distribution of resources and equal dispersion of demand, and further, that the hexagonal equilibrium system traced by Losch (1938), for such economy would not come about. Trading areas of different products lack identity, which condition leads to agglomeration cost advantages at certain locations, and which, in turn, elicit uneven distribution of population. Concentrations of population at diverse places promote differences in cost and demand and profitability of market areas. Theoretical emphasis on either cost or demand alone suffers from the logical omission of failing to carry its analysis for enough.

The list proposed above focuses attention on the natural existence of different costs and scattered demand. It is not only inclusive of forces affecting short-run locations in a free market economy, but, by subtracting special man-made forces, the pure (or basic) forces determining long-run locations in a free market economy are also revealed. Furthermore, if the personal factors, and the interdependence factors that are based on uncertainty, are in turn subtracted from the reduced list, the forces of location for a totalitarian economy are laid bare. The location forces of any economy include then, the cost factors of Alfred Weber, with a few minor additions (as included in the list above) and the demand factor that finds its broad expression in the different sizes of market areas that are open to the locator. Ignoring the several facades of demand is logically fatal to even those writings which attempt to generalize the subject by finding the underlying location forces of any economy (Greenhut, 1995:68).

The literature therefore has a definite problem of a general theory of business location in a free market economy. Nevertheless, from the above list of location factors three possible choices exist regarding explanation of business location in a free market economy:

- Two special theories:
  - (a) a maximum-profit location theory in the nature of the integrated theory suggested earlier; and
  - (b) a maximum-satisfaction theory.

The initial theory probably describes most plant locations; the maximum-satisfactory theory (designed to account solely for locations of the psychic income type), explains some site-selections.

- A general maximum-profit theory of location which attains its generality by defining psychic income as a part of maximum profits. This type of

integration requires imputation of non-pecuniary motivations in the opportunity wage cost that is charged to the firms.

- A general maximum-satisfaction theory, which by definition, makes either maximum profits, or maximum pecuniary plus non-pecuniary returns equivalent to maximum-satisfactions. This approach is logically more consistent than the maximum-profit theory that includes an imputed psychic income; but, it is somewhat less satisfactory than this general maximum-profit theory, for the assumption of economic man motivated by pecuniary returns must be given up. Thus, while its basic postulates have greater public validity, a possible loss in econometric type of research possibilities may over-compensate the attainment of generality. It may even be best to disregard non-pecuniary returns entirely in the basic location models, and thus to formulate a general theory upon the maximum-profit location theory cited above (Greenhut, 1995: 68).

#### **4.8 LOCATION FACTOR CONCEPTS**

Even though SMME's emphasize the word *small*, growing entrepreneurial ventures are fundamentally maximizers. Either they maximize profits, or they maximize size in the long-run, or both. Profits are the difference between revenues and costs. If revenues do not vary by location, then the least cost location also will be the maximum profit location. Conversely, if costs do not vary over space, then the maximum revenue location is the maximum profit location. In reality, both costs and revenues vary simultaneously and often irregularly, and location solution are only approximations of the best combinations of least costs and maximum revenues (Greenhut, 1995: 69).

Small businesses emphasize revenues when making location decisions. Many times their most important location factor is the market. But they are also

consciously concerned with both the revenues and cost dimensions of the location calculus. Typically, they attempt to minimize costs within specific geographic contexts, but the location of markets (therefore revenues) are usually critical in establishing the more general geographic region within which costs are minimized. Market orientated locations decrease transport costs, but they can be even more important when service times are decreased and sales are increased. Also the critical labour issues are as much availability and productivity as they are simple wage rates, and better trained labour often is easier to obtain in the same areas that contain the major markets (Laulajainen & Stafford, 1995: 15).

Still, there are no perfect locations. More precisely, it is impossible to determine the optimum locations because of lack of data, techniques which become too complex when burdened with many variables, and because of uncertainty – uncertainty about the future and uncertainty about the actions of competitors, suppliers and customers. There are no single factor locations either. Each location decision reflects the substitution of the relative advantages of some variables against the disadvantages other variables exhibit at the same place. For example, nearness to markets and access to adequate labour supplies may have to be traded off against higher wage rates and land costs. Spatial variation is as important as the magnitude of the variable. For example, even if the firm's largest outlay is for labour, if these costs do not vary significantly over space, then labour is not a locational variable for searches within the country.

Locations have two major aspects, namely *situation* and *site*. A land area's situation is its location relative to other important spatial distributions, such as nearness to the market or centrality within an adequate trade area, or accessibility by a labour force, or nearness to corporate headquarters or other units of the firm, or location relative to the locations of competitors. Site factors are the absolute measures of the relevant physical characteristics of a specific parcel of land. Often included are parcel size, shape, topography (especially slope), drainage, soil characteristics and load bearing capacity, highway or street frontage, traffic



counts, visibility and ease of ingress and egress. In location searches, situation should always be determined before site issues are addressed. Within any desired general area (situation) there will be several accepted sites from which to choose. The search always should proceed from the global scale to the local scale. It should proceed “down” the geographic hierarchy, but reality is often at variance with the preferred (Laulajainen & Stafford, 1995: 16).

There are numerous factors that might be taken into account when deciding where to locate a business. However, relatively few factors are really important. One broad classification places the factors which relate to the friction of distance in one group, and those which relate to the attributes of areas in the second group. The first group includes all those which account for the costs (money, time, service) of getting products and / or people from location A to location B. These are the transportation costs from suppliers, and to markets, and communication costs. The second group contains all the important attributes of areas, including labour characteristics, infrastructure, governmental influences (subsidies, taxes, regulations, etc.) and quality of life. An alternative classification is to distinguish between those location factors which affect costs and those which affect revenues (sales). The first group consists of the various inputs which are needed in business, the dominant ones being materials (raw materials, intermediates, parts and components), labour, land and public interference such as subsidies and taxes. Sales, of course, are of the outputs of the business, and market access or market closeness is the location concern (Laulajainen & Stafford, 1995:17).

As was said before, no location decision is the product of a single factor – it is therefore important to examine the major variables or factors that influence the location decision, independently.

## 4.9 VARIOUS LOCATION FACTORS

The geographical location usually refers to the premises that will be needed to produce the products or render the services. Making an informed and calculated choice of location is of extreme or even vital importance for an enterprise. Depending on the nature of the product or service that is to be offered, the entrepreneur should, for example, decide whether the enterprise needs to be located near its market, its sources of raw materials, close to other competitive enterprises, in the city centre, the suburbs, a rural area, in an existing industrial area or anywhere the entrepreneur prefers. These are referred to as location factors (Van Aardt & Van Aardt, 1997: 50).

The location of an enterprise involves a relatively complicated decision. There is no “perfect” or “right” location. Some places may be better than others at a given time. In a constantly changing environment, the factors which influence the choice of a location may also change with time (Marx *et al.*, 1998: 266).

The modern pattern of decision-making about location is influenced by the following five basic principles (Marx *et al.*, 1998: 267):

- the growth of suburbs, towns and surrounding communities;
- the development of industrial centres;
- decentralisation, geographic distribution and plants of large concerns;
- the increase in competition between cities for enterprises and
- increasing pollution and control measures.

The most important location factors that the entrepreneur should consider are:

○ *Sources of raw materials.*

Where, in what quantities and quality and at what prices are the most important raw materials available? The number of suppliers and their prices, the cost of transport of these raw materials to the point of location and the perishability of the raw materials should also be considered (Van Aardt & Van Aardt, 1997: 50).

Location near the source of the raw material is often essential in cases where:

- the raw material is perishable;
- large quantities of waste are produced, and
- transport costs for the raw material form a considerable cost component (Marx *et al.*, 1998: 273).

The business must, at all times, be able to procure adequate supplies and materials at the right price and of the best quality (Adendorff & De Wit, 1997: 39). The attractiveness of locating near the source(s) of raw material inputs, other things being equal, is to:

- (i) save on transportation costs;
- (ii) conserve perishable commodities;
- (iii) keep the value added at home (Laulajainen & Stafford, 1995:17).

○ *The availability of labour and other human resources.*

The availability of the right quantity and quality of labour required by the enterprise at a fair and equitable remuneration is an important location factor (Marx *et al.*, 1998: 273). Where and at what cost is sufficient labour of the right kind available in terms of, for example, levels of training, type of skills and experience, development potential and productivity (Van Aardt & Van Aardt, 1997: 50). Suitable labour pools are important because of the fact that labour is the life-giving production factor. It must be possible to employ the right kind of

labour, meaning that the workers should possess the necessary schooling, education, experience, drive and other characteristics. Unrest areas, where workers often go on strike and make unreasonable demands, should rather be avoided. The productivity of the workers is also of crucial importance – should they not possess the necessary knowledge and skills, it must be possible to train them (Adendorff & De Wit, 1997: 39).

The importance of labour as a locational factor is connected with its:

- availability;
- direct cost (wages and fringe benefits);
- productivity;
- skills.

In practice they are interrelated, but are now being addressed individually in so far as possible:

○ *Availability*

The fundamental aspect of labour is its availability, a balance of need and supply. Supply is affected by labour's mobility and (re)training potentials. Training is generally considered worthwhile only up to an age of about 45. The problem with training older workers is the work-life remaining in which to repay the human resource investment. The age structure of available labour is therefore important. Mobility has two dimensions, daily commuting and relocation to a new area. For most non-managerial labour, 45-60 minutes is about the upper limit of meaningful commuting distance, world class metropolitan regions excepted (Laulajainen & Stafford, 1995:21).

○ *Direct cost (wages and fringe benefits)*

The direct price of labour, ignoring productivity, is its hourly wage or monthly salary plus any fringe benefits. Variations in direct labour costs between regions within a country can be large. The variations between countries can even be larger. Some type of businesses in some industries are more attracted

to, and more able to take advantage of, low wage labour supply areas. The generalization is that relatively unsophisticated businesses requiring less skilled workers are more likely to be located in low-wage peripheral areas with ample labour pools. The opposite is also true (Laulajainen & Stafford, 1995: 25).

- *Productivity*

A worker earning twice as much as a second worker is no more expensive to the employer if he produces twice as much. As soon as the highly paid worker produces at a rate above the nominal pay rate differential he actually becomes a bargain, assuming that the quality of work produced is equal. The real cost of labour is clearly as much a consequence of productivity as it is of direct costs, and productivity varies by industry, business and region (Laulajainen & Stafford, 1995: 29). It must be mentioned here that productivity is a relative concept and that it is quite hard for the small businessman to measure productivity effectively, for example how do the entrepreneur know if city A's productivity is higher than city B's?

- *Skills*

The quality of labour clearly has several aspects. Apart from productivity, another is the capacity, or skill, of the labour force to manage a certain work process and produce a quality product.

- *The proximity of and access to the market.*

Here consideration should be given to aspects such as potential advantages over present competitors, the current extent and the potential development of the market, the perishability of the finished products, the consumers' need for rapid deliveries, after-sales services and personal contact, as well as the possible entry of competitors and substitute products or services into the market (Van Aardt & Van Aardt, 1997: 50).

The spatial distribution of the market is for many the single most important consideration in the location and continued prosperity of commercial enterprises. An established business has a fair idea of its market, actual and potential. For many products, the number of people in an area is a meaningful measure of market size. For other products, however, total population is not a sufficiently sensitive measure. For many small businesses location in the heart of the market is almost the only issue. As long as there is sufficient demand within an area, that is, the threshold requirements are met, a business will establish a physical presence. A business in a poor location probably will soon be out of business or will shift to a substantially different activity. Customers will not travel any farther than necessary to reach an acceptable retail outlet. From the small business point of view, there is a very sharp distance decay effect. For most stores selling everyday merchandise, 75% of sales come from customers residing or working within 15 – 30 minutes travel time of the business. For more exclusive stores the travel may be one hour, but few businesses ever get much business beyond the one-day radius.

A business with large floor area and deeper and broader assortments will draw customers from greater distances than smaller operations and probably will penetrate its close by area more thoroughly. This is reflected in a distance decay curve which has a higher intercept and slopes down more gently than for a small business. Business size is an important competitive parameter. This is a variation of the tensions between economies of scale and the friction of distance, and holds equally well for malls and CBD's as for stores (Laulajainen & Stafford, 1995: 53).

Adendorff & De Wit (1997: 39) mentions that there are three further aspects regarding access to the market that are important:

- (i) *Importance of the growth potential of the market* - A location should be chosen in such a way that good profits can be generated from the customers in the market. Attention must be given to the future growth potential of the population and the disposable income of that population.
- (ii) *Distance from the market* - It is not always possible to locate near the market. Some products or services are marketed country-wide and it consequently does not matter where the business is located. Location near the market has the advantage that close contact can be established with intermediaries. This strengthens the business's competitive position, and the necessary control over quality is maintained. Efficient after-sales service is also possible.

Premises near the market could be so expensive that it may be uneconomical to locate there. Locating near the market can also mean that a business may be inclined to compete intensively with its competitors. This increase costs and can cause the business's profitability to decrease unnecessarily.

- (iii) *Facilities for consumers* - Provision must be made for the necessary facilities that will positively influence the consumer's support motivation. The location must be chosen in such a way that there are adequate and convenient parking facilities. For easy access it should preferably be near public transport facilities. Matters such as adequate air conditioning and the creation of a pleasant atmosphere are also important, particularly when locating service businesses (Adendorff & De Wit, 1997: 39).

- *The availability of transport facilities.*

This includes the possibility of using own transport, the suitability of roads and limitations on private transport. It also includes aspects concerning the necessity of using hired transport by rail, air, road and water. The transport costs of raw materials in relation with finished products and the cost of transport of finished products to consumers should also be considered (Van Aardt & Van Aardt, 1997: 50).

Transport facilities also include suitable roads, railway lines and where appropriate, harbours for waterborne transport and / or suitable airports for air transport. The business premises should be within easy reach of one or more of these modes of transport, so that raw materials or finished products can be transported as quickly and cheaply as possible (Adendorff & De Wit, 1997: 40).

- *The availability of power and water at a reasonable price.*

The correct type of power, such as electricity, steam or gas, may be necessary for the supply of mechanical power, heating, cooling, lighting, etc. Water could also be used in the process for supplying steam, the removal of waste, cleaning or even as a raw material in certain production processes, e.g. manufacturing of soft drinks or beer (Van Aardt & Van Aardt, 1997: 50).

Adequate power, as required by the specific productive unit, must be available at the proposed location. Most countries are fairly self-reliant as far as the various sources of power are concerned (Adendorff & De Wit, 1997: 40).

Water can be used as a source of power as well as a raw material for certain processes. As a power source water is used to produce steam and as raw material water is essential in the manufacturing of soft drinks. In many



geographical areas water is a relatively scarce resource. Businesses using a great deal of water should preferably be located in areas where water is plentiful and cheap. Fortunately bodies like the Rand Water Board in South Africa constantly develop new sources of water, as in the case with the Lesotho Highlands Water Scheme (Adendorff & De Wit, 1997: 40).

- *The availability of a site and buildings.*

These should be of the required size and appearance, with the necessary facilities and possibilities for extension. The price at which the premises can be purchased, rented or developed, the cost of extensions or important improvements should also be considered. Consideration should also be given to accessibility for suppliers of raw material, customers and employees as well as the attractiveness of the surroundings and the presence of unpleasant, harmful or even dangerous neighbouring firms such as abattoirs, chemicals or explosives plants or other factories (Van Aardt & Van Aardt, 1997: 50).

The usual qualifications of a site are that the land parcel is of sufficient size for current needs and with room for expansion, regular in shape, level, of good geo-technical quality (gravel or sand rather than clay or silt), accessible and reasonably priced. Insufficient size of the site is a frequent problem for businesses in older industrial areas, and especially in inner cities (Laulajainen & Stafford, 1995: 36).

- *The availability of capital.*

This need not necessarily have a direct effect on the choice of a specific location for the enterprise, but can still play a role where the suppliers of capital (owners, partners, shareholders, private money-lenders, development corporations, Department of Trade and Industry or other financial institutions), for example, set specific conditions or express certain

preferences in this regard, or where capital is such a limiting factor that it necessitates the choice of the cheapest location for the enterprise (Van Aardt & Van Aardt, 1997: 51).

It is important for any business to attract adequate capital at the lowest cost. The question may arise whether sources of finance are a major location factor. In a country like South Africa a widespread network of banks and similar institutions exists, and most of them are fairly easily accessible. This means that management will be more inclined to consider locations where there are adequate facilities of this nature. Businesses handling a great deal of cash may wish to locate where there is at least a bank where the money can be safely kept (Adendorff & De Wit, 1997: 39).

It must be stated at this point that the above factor does not really apply anymore in today's society – all small businesses do have a need for capital, but the infrastructure regarding capital availability is almost anywhere available in any business environment.

- *The attitude, regulations and tariffs of local authorities.*

The aspects that have to be considered in this regard are, for example, the attitude of local authorities to industrial or small business development, including possible concessions of encouragement, as well as health regulations, building regulations, property rates, water and electricity tariffs, and the availability and costs of other municipal services. Local authorities charging outrageous tariffs and offering inadequate infrastructure and/or services should rather be avoided (Van Aardt & Van Aardt, 1997: 51).

- ***The existing business environment.***

This could influence the establishment of the proposed venture by, for example, the provision of repair and maintenance services, as well as the availability of spares and banking, postal and other communication facilities. The extent to which the proposed venture could provide repair and maintenance services to other businesses in the area if such services are not available should also be considered (Van Aardt & Van Aardt, 1997: 51).

- ***The social environment.***

This concerns the provision of satisfactory housing and educational, medical, recreational and shopping facilities for employees of the proposed enterprise (Van Aardt & Van Aardt, 1997: 52).

- ***The climate of the region.***

Some production processes require a particular type of climate and climate can influence the recruitment and retention of personnel as well as the promotion and maintenance of their productivity (Van Aardt & Van Aardt, 1997: 51).

- ***Central government policy.***

Government has become an important factor in small business location. Its influence has been felt especially in the location of some types of SMME's, through government-financed facilities, certificates of necessity, dispersion programs, aid to depressed areas, and the general tax and tariff programs (Hunker & Wright, 1963: 87). This may encourage or discourage the establishment of certain types of enterprises in specific areas in a direct or indirect manner through, for example, tax concessions. Funding of a venture

in rural areas that could be obtained from the Department of Trade and Industry should also be considered (Van Aardt & Van Aardt, 1997: 51).

Governments also levy taxes, grant subsidies, impose controls and establish environmental rules. They influence location decisions via trade barriers and monetary policies, as expressed by rates of exchange, for example. Especially the influence of taxes on business locations is widely and hotly debated. There is a common public perception that businesses are strongly influenced by spatial variations in tax rates and tend to choose low-tax areas.

Within the past two decades environmental legislation has assumed major proportions as a location influence. It is now on almost every list of location factors because of the strong movements in environmental management and other comparative issues (Laulajainen & Stafford, 1995: 38).

- ***Business climates and quality of life.***

It is possible, with many assumptions and guesses about the future, to assign some numbers to items like material loss in processing, labour costs, taxes, and even productivity, and add them. More elusive, but still real are perceptions about places which bias location decisions. Enterprises are concerned about the “business climates” of the areas in which they operate. The larger and more fixed the investment, the greater the concern. Internationally the major issue is political stability, although legislation about and treatment of foreigners and its application also are of concern. It is difficult to measure political stability. Political violence, frequent changes of governments, and ethnic and religious diversity are traditional indicators. Another, more comprehensive approach is to rely on experts who give their opinion about a number of core characteristics, to be weighted as to perceived importance, and thereafter added to a comprehensive score (Laulajainen & Stafford, 1995: 49).

- *The personal geographical preferences of the prospective entrepreneur and his or her family.*

The factors that could play a role here are the availability of schools for the children, familiarity with the area, recreation facilities, shopping centres, sports clubs, good medical services, schools, the necessity for moving house or even security or other uncertainties (Van Aardt & Van Aardt, 1997: 51).

Marx *et al.* (1998) divides all the above location factors mainly in two categories, namely *primary considerations* which consist of:

- the potential market;
- infrastructure;
- raw materials;
- availability of labour, and

the secondary considerations, which consist of:

- climate;
- government intervention;
- political situation;
- available premises;
- availability and cost of capital, and
- personal considerations.

According to Browning (1980: 12), the location-decision factors can also be grouped into two categories, as shown in Table 4.2 – those that lend themselves to quantitative evaluation and those that tend to be judged informally by management.

**TABLE 4.2: Important formal and informal location judgments**

	<b>QUANTITATIVE FACTORS</b>	<b>QUALITATIVE FACTORS</b>
<b>RESOURCES</b>	Land costs Raw material costs Subcontracting costs Transportation costs Utility rates Labour costs Energy-fuel availability	Land availability Availability of skilled and unskilled labour Labour productivity Transportation availability
<b>LOCAL CONDITIONS</b>	Construction costs Taxes	Culture Community receptivity Worker attitudes and work ethics Unionisation in area Proximity to markets Quality of life: climate, housing, recreation and schools

(SOURCE: Browning, 1980: 12)

The problem with today's modelling techniques, suggest Ebert & Adam (1977) is that most tend to focus on transportation costs. "Transportation cost may or may not be the critical factor in location, depending on resource requirements, the technological process, the product, and markets... rarely can a facility location problem of moderate complexity be solved with formal analysis only," observe Ebert & Adam.

Expanding on that idea, they point out that the decision to locate a new facility usually means that employees will be hired from within the new locale. It also means that the organization must establish appropriate community relations to "fit

into” the locale as a good neighbour and citizen... The managerial style and organizational structure must be adapted to the economic, political, religious, and social differences at different locations. The facility must be aware of, and adapt to, the norms and customs of local subcultures. Whereas an authoritarian leadership and managerial style may be well suited to one location, a democratic-participative approach may be appropriate in another (Ebert & Adam, 1977: 35).

When more than one location has been identified, all possible locations have to be assessed in terms of the above factors and the best one chosen. This assessment would be a relatively easy task if all the location factors played an equally important role in the location of a specific enterprise, and if all such factors could be quantified in monetary terms. Unfortunately this is not the case. All the applicable factors should nevertheless be considered when selecting a location.

To succeed in this, various models have been developed which can be used when assessing location factors that can be expressed in monetary terms, as well as those that will be assessed subjectively in the choice of a location. Consequently, the overall influence of all applicable location factors on each of the potential locations can be quantified and the most advantageous location can be determined.

It must be expressed at this point in time that every different enterprise concern (for example manufacturing, retailing, services, etc.) has got their own identifiable location factors which will all carry different weights for each concern. Therefore the nature of each enterprise is vital in deciding on the location factors (Marx *et al.*, 1998: 268).

## 4.10 THE LOCATION DECISION

The sum of the location decisions of a business produce its corporate geography. The location decision for each unit is based on some combination of the location factors discussed previously. The problem might be conceived as simple – choose the location that will produce the maximum profit. In reality, the problem is extremely complex, and in an absolute sense unsolvable. There are several complications. The first is that profit is not the only motive in the location of a small business. Other motives include stability and market share. However, even if the profit motive is assumed, is the solution over the short- or long-term? And how are uncertainties dealt with? Many of the data desired are unavailable or of dubious quality. The actions of suppliers and competitors cannot be forecast with certainty. Future markets can only be guessed.

Still, location decisions must be, and are made every day, by assuming that the best available data and forecasts are adequate. But even with such heroic assumptions, location decisions are complex. The first complexity is that the size, type and location of a business are inexorably intertwined, but the process of practical decision-making demands that either location or type and size take precedence. Thus, the choice is to locate first then adapt the business to the environment in which it is placed, or to make an *a priori* decision on how large the facility will be and on its product mix, and then search for an acceptable place to locate it. In location theory terms, the first is a “Von Thunen” type choice when the question is “given this location, how should it be used?” The answer is relevant in densely built areas, city centres for example, where retailers must usually adapt operations to the leases available. The second is a “Weber” type choice, when the question is “given this type and size of facility, where should it be placed? (Laulajainen & Stafford, 1995: 61).



The next complexity arises from the fact that profit is the difference between revenues and costs; however, a least cost location is probably not a maximum revenue location. It is possible to calculate the difference between revenues and costs at any location, but the calculations become quite complicated, and a straightforward solution is not possible. This is because the process is circular. Costs influence sales, and thus revenues, and sales levels, in turn, influence costs per item produced. There are techniques for calculating the optimum, under restrictive assumptions, but such exercises belong to academic treatises rather than practical business life.

The third complexity is that all locations should be available for selection, but in reality selections are made between a relatively few places. In theory, “all locations” are innumerable (space is infinite), but in practice locations are selected from among a finite set of possibilities. There are search costs, so searches are limited (Laulajainen & Stafford, 1995: 62).

Once all the major location factors as discussed previously have been listed, the question arises where the small business concerned should be located. The relevant problems arising from these location decisions are:

- ***Not all the location factors are of equal importance.***  
The availability of adequate fresh water of a very high standard is, for example, of critical importance to a beer brewery.
- ***Various location factors comprise a number of variables.***  
In discussing infrastructure, for example, many variables like roads, electricity, etc. were mentioned. Each of these variables complicates the choice of the correct location.
- ***Not all location factors can be expressed in monetary terms.***

An example is the personal preferences of the entrepreneur and his personnel.

- ***Some businesses produce a wide variety of products.***

It may be better to produce / sell some products / services in one region, while others may be better suited to another. A decision must therefore be made whether the business will establish itself at one of these places, or whether it will rather establish a number of productive units for the various products / services.

- ***The importance of most of the location factors will change over time.***

Perhaps a business could get by without a great deal of electricity to start off with, but it may grow so much that electricity eventually becomes more important.

- ***Establishing a small business location should not take up too much of the entrepreneur's time.***

Because it is only one of many things with which management concerns itself, the above statement unfortunately happens quite often. It could result in the wrong decision being made (Adendorff & De Wit, 1997: 41).

#### **4.11 QUANTIFYING THE LOCATION-DECISION**

In order to solve the location-decision for a small business, certain quantitative methods have been developed to help management. One of the practical applications of quantifying the location decision is the Brown-Gibson model, discussed below (Adendorff & De Wit, 1997: 42):

- ***Identify the location factors relevant to the particular situation.***

- *Identify two or more location alternatives.*
- *Allocate a weight to each location factor.*

This weight must indicate the relative importance of a factor in terms of other factors. Taken together these weights should not exceed the figure 1,00.

- *Judge each location factor on the basis of a scale that runs from 1 to 100.*
- *Multiply the weight of each location factor with the figure between 1 and 100 allocated to each.*
- *Add the figures of each alternative.*
- *Choose the alternative with the highest final score (Adendorff & De Wit, 1997: 42).*

Another practical application on quantifying the location decision is the following model of Van Aardt & Van Aardt (1997: 52):

Assuming that a proposed enterprise is considering only two alternative locations, A & B, the following procedure for making the most advantageous choice can be followed:

- *Step 1:* The first step is to establish the location factors applicable to the proposed business enterprise (just like the Brown-Gibson model). This could be different for each business venture.
- *Step 2:* After the appropriate location factors have been established, a weighting (1-5) must be assigned to each factor to give a sense of its importance. If it is extremely important, it should be given a weighting of 5, whereas if it is of very low importance, a weighting of 1 to 2 could be given.

However, if the location factor is only moderately important, the weighting should be 3 or 4.

- *Step 3:* Calculate as accurately as possible the cost per location factor for both of the locations. The factors that cannot be quantified should be evaluated against the requirements set for a specific location factor and be given a rating (1-10) as to how well it meets the criterion. If the idea fulfills all possible aspects of a criterion, it would receive a rating of 1. On the other hand, if it only partially satisfies the criterion, it might receive a 4 or 5 and if it does not satisfy the requirements, it should get a 9 or 10.
- *Step 4:* List the information gathered in steps 1 to 3 in a table (see Table 4.3):

**TABLE 4.3: A comparison of two location options**

<b>LOCATION FACTOR</b>	<b>LOCATION A</b>	<b>LOCATION B</b>	<b>Weighting of location factor</b>
<b>Transport cost</b>	R12 000	R10 000	5
<b>Competition</b>	4	5	3
<b>Community acceptance</b>	3	4	1
<b>Office rent</b>	R14 000	R12 500	3
<b>Electricity</b>	R9 600	R8 000	2
<b>Personal preference</b>	2	5	4

(SOURCE: Van Aardt & Van Aardt, 1997: 52)

- *Step 5:* Calculate the disadvantages connected with both locations and determine the ratio between the disadvantages of locations A & B using the following method:

$$\begin{aligned}
 & \text{Location A} \\
 & \text{Location B} \\
 \\
 = & \frac{12\,000 \times 5}{10\,000 \times 5} \times \frac{4 \times 3}{5 \times 3} \times \frac{3 \times 1}{4 \times 1} \times \frac{14\,000 \times 3}{12\,500 \times 3} \times \frac{9\,600 \times 2}{8\,000 \times 2} \times \frac{2 \times 4}{5 \times 4} \\
 \\
 = & \frac{1}{2,58}
 \end{aligned}$$

It is clear from the result that the disadvantages associated with Location A are less than those associated with location B (Van Aardt & Van Aardt, 1997: 53).

#### 4.11.1 Evaluating location by means of the mathematical method SLAM

Many models have been developed to predict the performance potential of small business enterprises. Very few of these approaches have lent themselves to everyday use by entrepreneurs. Very few small businesses are known to incorporate a mathematical model in their assessment of new business locations. More importantly, few modelling approaches have been developed to assess the performance of existing SMME's, against measurable criteria. The Store Location Assessment Model (SLAM), was developed to satisfy several key criteria: namely, it was to have a rigorous academic basis, whilst being of direct relevance to multiple businesses in that it had to be easy to use and inexpensive to develop, producing meaningful, accurate results. This model has also shown the benefit of

being used as a general small business performance evaluation tool (Simkin, 1990: 33).

The work, initially commissioned by a leading UK retailer of consumer electrical goods, was initiated in order to develop a mathematical approach to the assessment of new business openings. In order for Simkin (1990) to produce a viable yet innovative model it was necessary first to examine published work concerning plant location. A wide range of techniques exists: subjective checklists, analogues / comparisons with existing stores, central place theory, spatial interaction models, and multivariate statistical approaches.

The early checklist was simply a list of factors (as discussed in an earlier section) to consider during a field study of a location. This technique has been refined and is now the most commonly adopted approach, for example the Brown-Gibson model. The second most popular technique – also subjectively or intuitively assessed – is the analogue study: the comparison of the proposed store / site with similar existing stores in the business's portfolio in analogous areas. The original spatial interaction models were the first of the mathematical approaches developed, based on Reilly's Law of Gravitation. These have been developed into intervening opportunities models and multiplicative interaction models. For the small business, however, these approaches are perceived as being too complex, requiring rigid – and often unrealistic – data inputs, computer and technical facilities, and a great deal of time and patience (Simkin, 1990: 33).

While many mathematical models have been created, there is a dearth of operationally predictive models capable of reproducing meaningful and usable information for a business's management. The literature contains a predominance of purely descriptive or highly theoretical work which is not relevant for extensive application by many SMME's.

Most businesses know their shop-fitting, start-up, and operating costs, and can estimate profitability once they have projected turnover figures. Turnover is therefor the dependant variable. The determinants of turnover are:

- ***Competition***

Competition has two roles regarding performance: (i) it attracts purchasers of a particular good to the business, and (ii) it competes for such business with the branch being located or assessed. Variables include the number of competitors, the degree of competition over various product groups, proximity to the store being assessed, competitor's size characteristics and prominence, number of personnel, number of tills, type of ownerships / brands, geographic spread, promotional spend, pricing policies and customer service levels (Simkin, 1990: 34).

- ***Trading area composition***

The quality of the location is a measure of its pull on consumers relative to the pull of neighbouring centres. As a guide, the presence of many key traders or magnets, of many competitors' stores, of amenities which attract people to a certain location, is an indication of the attractive quality of a location. Variables include the number of key traders in the area, their quality and proximity to the business being assessed, market halls, main post offices, and shopping centre amenities such as hotels, cinemas, theatres, sports facilities, night clubs, etc. (Simkin, 1990: 34).

- ***Catchment area demographics***

Clearly the spending potential of the business's catchment area population is a determinant of its performance. A demographic profile of the area must match that of the enterprise. In most countries demographic socio-economic databases are available, dividing the population into many lifestyles / social and economic groups, producing a consumer profile for

each geographic area. Employment patterns and social trend data are also widely available (Simkin, 1990: 35).

- ***Store accessibility***

The business must be clearly visible and readily accessible to the consumer. Pedestrian traffic passing the business, proximity of bus/tube/railway stations/bus stops/taxi ranks and car parking, the ease and cost of parking are important considerations (Simkin, 1990: 35).

- ***Store characteristics***

The physical attributes of the business must match the requirements of the small business and of its consumers / customers. Business size and layout, net selling space, entries, business frontage and prominence, age, refurbishment level, rent and rates, number of employees, storeroom and delivery arrangements are key attributes (Simkin, 1990: 35).

#### **4.11.2 The SLAM-modelling process**

The intention is to determine what affects the performance of a business's existing outlets, either to be able to predict performance levels of new openings or to set performance targets of current locations. The survey gave a general list of which variables to consider, namely the main categories of location factors. On the whole, businesses consider similar variables, but the relative importance of these variables differs from business to business. Based then on an analysis of the business's current stores, the literature suggests that a polynomial regression equation (an analogue multivariate statistical approach), with turnover the dependant variable, will lead to a rapid pay-off. Stepwise regression reduces the 60 or 90 potentially relevant independent



variables (factors) to, typically, 12 to 16 variables, with an adjusted  $R$  square of around 0,80 (including polynomial variables):

$$T_s = a + \sum_{n=1}^m \sum_{i=1}^j b_{n,i} X_{s,n}^i + U_s$$

where:

$T_s$  = the dependant variable (turnover) for store  $S$ ;

$X_{s,n}$  = independent variables  $n$  for store  $s$ ;

$a$  = constant term;

$b_{n,i}$  = coefficient of variable  $n$  at power  $i$ ;

$U_s$  = error terms for store  $s$ .

The independent variables (factors) come from the main categories of determinants for turnover, namely: competition, trading area composition, catchment demographics, store accessibility and store characteristics.

The model's validation is in three stages. First, the equation developed on the estimation sample – half of the stores – is used to predict the turnovers of the remaining stores in the hold-out sample, and the predicted figures are compared with the actual figures for turnover. Second, this is checked objectively using Theil's Coefficient and the Janus Quotient. Third, along with the business's management, the included independent variables are assessed to ascertain their intuitive logic – do they make sense? The final equation is then presented to the business on a spreadsheet PC program for ease of use, and its use is fully explained to the entrepreneur or manager(s) (Simkin 1990: 36).

### 4.11.3 Implications of the SLAM-model

Originally the model was developed in order to predict turnovers for new store openings, but in order to produce such a model the adopted approach attempts to

ascertain the underlying reasons behind existing locations' performance. The model then has several key functions:

- It predicts expected turnover, the dependant variable, which forms an objective basis for a business's assessment of its existing portfolio and of new store location choices.
- It identifies which market variables (factors) determine the success of a business's locations, and – of equal importance – which variables do not. Typically each of these variables (factors) will match the management's own views, but significantly one or two variables of importance will be new to the management's thinking.
- By examining the few outliers, under-performing stores are identified. This enables the rationalisation of the property portfolio, assuming that it is not simply a managerial fault. The model is, then, a diagnostic tool to assist in providing an explanation for poor performance (or over-performance). If one of the independent variables is not responsible – by being significantly above or below the business norm – the chances are that management is at fault and is therefore responsible for the under-performance. Where one of the independent variables is responsible, measures may be taken to overcome the problems being faced. Where the variables causing the problems are related to the location or physical characteristics of the business, then the only solution may be to relocate the business in question.
- The model examines a significant amount of competitor information and marketing data. It is possible to understand the impact of individual competitive brands, their store types, and their marketing mixes.
- When assessing new locations and business openings, it is possible for the model to rank site choices. Typically if an entrepreneur has decided to open a business in a particular town / city, four or five sites will be

available. The model will examine all the available sites simultaneously and rank them in terms of expected turnover. The business's management can then use the model's findings as a basis for its decision-making in selecting the ideal site. The model thus leads to the determination of the most suitable site – in terms of expected turnover – for a new business or for a relocation.

- Analysis of subgroups of branches within a business's portfolio can be carried out. Having developed a model pertinent to the business's chain of stores (or models for various types of stores within its portfolio), it is possible to identify subgroups of stores to be analysed separately and in more detail. For example, the most recent 20 openings could be evaluated against the business norm to check whether or not trading conditions have changed since the model's development (Simkin, 1990: 37).

Where a company has tended to concentrate geographically, it is possible to select branches on the edge or periphery of its trading territory and to develop a separate model based on data from those stores, where brand identity will be much lower than in the core of its trading area. This ascertains whether or not there are any changes in the included independent variables and their weighting for assessing stores outside the business's heartland. Similarly, in major conurbations where it is possible that a business has a few outlets, but where customers will travel further owing to their commuting habits, it is possible to develop a variation of the model based on data for such locations. Again, this allows the level of accuracy and the scope for usage to be improved.

The SLAM approach produces statistically validated predictions of business turnover for existing site locations and for proposed new locations. As a marketing tool, the modelling process analyses which aspects of the business environment determine the success of a business's outlets. Under-performing businesses are highlighted and their trading problems diagnosed, enabling the

rationalization of the property portfolio. Performance targets can be set for existing businesses and for new locations. The impact of competitors and individual competing brands can clearly be identified in terms of store location analysis (Simkin, 1990: 37).

In performing these tasks, the model manages to be simple to calibrate, validate and to use, and does not deter management from using it on a daily basis. In this way, SLAM has managed to fill a void in the store location and performance theory while becoming a useful tool in day-to-day management. The model is not a substitute for the manager's intuition, nor intended to be used in isolation. SLAM provides a more objective basis for the manager's decision-making, highlighting the most likely options for new and relocations, presenting performance targets for all a business's outlets, and providing an objective basis for rationalisation of the property portfolio where required.

#### **4.12 SUMMARY**

Nearness to markets is the single most important factor influencing the location of commercial facilities. For manufacturers, being near customers ranks with labour as one of the top two concerns; for retailers, nearness to customers is the paramount concern. Manufacturers routinely experience sales increases of 5 to 10 percent, or price cuts of similar magnitude to compensate for an offside location. Occasionally, the effects can be much larger. Being near markets decreases customer travel, delivery times and reduces customer warehousing needs. It increases interaction between producers and suppliers, and helps in matching products to market needs. The newest trend therefore is to locate the marketing function close to the market and the manufacturing side close to labour and raw materials.

Material inputs include aspects of weight loss, raw material perishability, and increased value added. One is alerted to changes in established paradigms like the domestic raw material base of Scandinavian paper industry, intensive applications of cooling and deep-freezing technology, and the subtle interplay of weight loss, by-product credits, transportability, flexibility, and political pressure and risk in locating oil refineries.

Labour is usually of small concern in the location of retailing and any area with sufficient market will have an adequate supply of sales persons. The situation is very different for small manufacturers. They need strong labour forces with the correct mix of needed skills. The direct labour costs and fringe benefits to the employer are higher for more highly skilled workers, but high productivity and product quality may more than compensate for them. Productivity, of course, is greater when there are few labour disputes. Some areas have better labour relations histories than others, and these are preferred by businesses, other things being equal.

Businesses prefer to locate in areas which they perceive to have good business climates. To some degree, perceptions of places and countries in these regards are influenced by governmental actions. High taxes which are not counterbalanced by services provided, environmental regulations and social legislation which make production excessively difficult make some areas less desirable than others. Direct subsidies, controls and trade barriers can be powerful location factors. Novel in their locational effect are fluctuating exchange rates, leading to otherwise unusual decisions (Laulajainen & Stafford, 1995: 60).

The different types of locations for SMME's are being discussed in Chapter 5 before the residential-based location is being empirically researched in the following part of this study.